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INDIAN JOURNAL OF ECONOMICS

January 1916

EDITORIAL FOREWORD

The issue of this Journal has been undertaken with a threefold purpose. The Journal is intended in the first place to supply a longfelt need by providing a medium for the publication of articles on Indian Economics by authors of academic standing or authoritative position. In the second place it is designed to furnish a convenient and compact vehicle of publication for the original investigations made by the staff of the Economics Department of the Allahabad University, and for the more important researches of students of the Seminar class in Economics, so as to avoid having such papers scattered throughout various Indian and English periodicals.

The third object of issuing this Journal is to proffer one kind of public service which can be undertaken better by a University department than any other agency : namely the dissemination of information about the economic activities of other countries. National progress can be made swiftly and surely only by utilizing the experience of other nations. Experiments in the commercial development of territories, and in legislation of an economic character, are being made in all parts of the world. In many lands the economic

conditions are similar in some respects to Indian conditions ; and if knowledge of the effects of economic measures undertaken in these countries can be made public in India, development and reforms are likely to proceed in India more safely and rapidly. Blunders will be avoided, not by the excessive caution which spells stagnation, but by deductive reasoning based upon the comparative method. As one means towards fulfilling this object it is proposed to appoint correspondents of the Journal in all parts of the world, who will be requested to indicate the best sources of information regarding economic conditions in their respective countries, and to forward notes from time to time on matters likely to be of interest to the Indian public.

The Journal will include in its scope the theory and method of economics ; the descriptive economics of India and of other countries where conditions are similar ; currency and banking ; including the study of prices and trade fluctuations ; finance—public and commercial ; statistics—theoretical and descriptive ; the economic history of India and other countries ; and the history of economic doctrines and writings. Proposals for legislative and social reforms of an economic character will be within its scope ; and the financial and industrial activities of local governments, and the public utility services of municipalities, may from time to time be dealt with. It is intended to devote a good deal of space to detailed bibliographies, both of writings on Indian economics, and of books and documents, whether Indian or foreign, on economic questions of special interest in India. The cooperation of Indian economists in this important service to the science is cordially invited.

The Journal has no policy, except to record and publish what is believed to be the truth, and to enable authors cognizant of Indian affairs to make or criticize proposals for the amelioration of economic conditions by legislative or social reforms. As contributions of sufficient originality and importance will be accepted from all economic writers

of acknowledged standing, it will be understood that the editor is not in any way responsible for opinions expressed by authors. Exception to this rule will be made only in the case of articles contributed by scholars and students of the Department of Economics in the University, such articles being examined by the editor in his capacity of University Professor of Economics. The editor also accepts responsibility for the Current Notes, and for the Reviews of books. Articles which may be published from time to time from the editor's pen will be contributed by him as an author on the same footing as other authors.

In conclusion, a few words may be said as to the Department of Economics of the University of Allahabad, which is responsible for the issue of this Journal. The first appointment of a University Professor of Economics was made in 1914, and his duties were defined to be : firstly to organize and carry out research ; secondly to train students in the work of research ; and thirdly to give lectures which would embody the results of his work and would be published by the University. He was also, whenever so required, to give advice on the organization of the teaching of economics. In carrying out this programme a commencement has been made by the appointment of a small permanent staff—a Reader, a Research Assistant, and two Scholars, with the necessary clerical assistants. By means of liberal grants from the Central and Provincial Governments rapid strides are being made in the formation of an adequate economics section of the University Library. It is intended to stock the Library with all modern general works and with the best books in all the special branches of the subject. All the classical and standard economic works of the nineteenth century will also be added gradually ; and it is hoped that in a few years the Library will be thoroughly representative of the literature of Economics in the English and French languages. The larger part of the Library is to consist, however, of original printed documents—the Government

publications of the principal countries of the world, official reports of local government authorities, public trusts and of quasi-official bodies, such as, chambers of commerce, employers' associations, industrial conferences, and trade unions. The University will gratefully accept donations of printed copies of all publications of these descriptions from all countries of the world. In many cases the Editor of this Journal will be ready to arrange to send free copies in exchange, should this be desired; and in some cases other publications could also be sent. The Editor is also desirous of arranging to exchange with all Journals dealing with economics, sociology, and statistics, and invites correspondence in relation thereto. It is believed that with the growth of the Library a considerable number of research students will be attracted to the Department, and this will justify the appointment of specialist lecturers in the separate branches of the subject.

AGRICULTURAL BANKS IN INDIA

THE HON'BLE MR. D. E. WACHA
MEMBER OF BOMBAY LEGISLATIVE COUNCIL

"If there be one place in the world and one people in the world whose interest we are bound to consider, it appears to me that country is India, and that people is the population of India. Mostly through the policy of our fathers, that vast Empire, with its countless population, is placed under the Government of England. It may remain so for a long period; but be it long or short, we, at least, who have not the responsibility of the conquest, and do not look for further acquisitions of territory there, we have a great and solemn duty laid upon us, a duty in which our own interests are concerned just as much as the interests of the population of India. If there has been wrong done to the people of that Empire in past times and doubtless there has been much wrong, let us in our day and generation, at least, if possible, make such compensation as may be in our power by dealing out to them, in every form which comes before us, that mercy, and that justice which a distant and conquered people have a right to demand from us."—John Bright, at a meeting of the East India Association held on 5th July 1883 to hear a paper by Sir William Wedderburn on "The Poona Ryots' Bank: a practical Experiment."

Agricultural indebtedness, though world-old, is one of the most difficult and complicated of modern economic problems. In Europe experienced heads have tried to solve it with fair success. But in India nothing noteworthy has been hitherto attempted to ameliorate the condition of her impoverished and indebted peasantry. It is not within the scope of this paper to trace the origin and causes of such impoverishment and indebtedness. Its object is to discuss the ways and means most practicable for the emancipation of that indebtedness for which there are no two opinions. True it is that during the last half a century spasmodic

efforts have been made for some practical scheme which has been much commented upon. All these may be said to be more or less of an academic character. The only one practical attempt made on this side of India was about the year 1880. The disastrous famine of 1876-77 had led in the Deccan to serious agrarian riots. Their seriousness was such as to oblige the Government to appoint a Commission to investigate into causes thereof. The Commission was presided over by an exceptionally able civilian in the person of Mr. (afterwards Sir) Auckland Colvin. The report was published in 1879 and clearly traced to their root the causes of the riots. Intolerable land revenue enhancement was pointed out as the principal reason of the indebtedness. In his admirable brochure Sir William Wedderburn, of the Bombay Civil Service and widely known for his deep and abiding sympathy for the impoverished ryot, most impartially pointed out the burden of such revenue enhancements and suggested means by which the burden could be mitigated and the heavy indebtedness diminished to a reasonable extent. Meanwhile as a corollary of Mr. Colvin's report the Government of India, during the Viceroyalty of that benign and sympathetic statesman, Lord Ripon, passed an enactment known as the Deccan Agriculturists' Relief Act. It was a technical and most complicated piece of legislation which was engineered in the Viceregal Legislative Council by Sir Theodore Hope, a distinguished Bombay Civilian and well known for his vast revenue lore and administrative capacity. But it was severely criticised for many of its provisions, on economic grounds, by another equally able Bombay Civilian, Mr. (afterwards Sir) Raymond West, in a brochure which may still be studied with profit for its juridical and economic arguments. The Act was to be applied in the first instance to the four most severely afflicted and heavily indebted districts of the Deccan and its extension to the other districts was contemplated as experience prompted. The technical provisions of the Act demanded

that it should be properly administered by a competent and qualified Judge. Accordingly the post of a special Judge was created for the purpose. The official annual report was held by the critical public to be more or less optimistic. And as years rolled on it came to be pronounced by those who had close knowledge and experience of its working to be a comparative failure. The popular verdict eventually became so accentuated that a Committee was appointed in 1913 to report to the Government on its operations. It was presided over by an able Civilian, Mr. Arthur, and its report confirmed the popular verdict.

It may be useful to note at this stage that Sir James Caird, the President of the first Famine Commission of 1878-9, who was requested by the Marquis of Salisbury, then Secretary of State, to furnish him with a separate report of his own on the condition of India, was so deeply impressed by the heavy agricultural indebtedness, of almost a hopeless character, of the Indian peasantry, that he formulated his own proposal for its mitigation.

After criticising the land revenue policy of the Government, to which he had many serious objections, Sir James observed as follows: "Whilst the majority of the Indian cultivators may indeed find it necessary to adhere to the Native principle of continuous tenancy, a Government such as ours in India should offer every facility for changing the tenure to freehold, both because it can be done without loss of revenue, and when and in the process of doing, that change would enlist the willing help of the most numerous and most industrious class in improving the yield of the land, and unite their interests with that of rulers through whom alone their possession would be assured. For this object I would suggest that a Freehold Commission might be established in each province, who on the requisition of any occupier under Government, should be empowered to change his tenure to freehold, at a valuation to be made by the officers of the Commission, on such terms as might

fairly represent the freehold value at the time. The present system of handing over the right to mortgage the public land, without payment for it, is both a wrong to the general community, whose interest in the property of the State is thus encroached on, and an evil to the ignorant cultivator, who in this way acquires the too easy command of means without the labour and thrift which could enable him to value and retain the boon. The price of conversion might be paid either in cash, or in a rent-charge equal to the yearly value of the price, which might at any time be redeemable. It would then be in the power of any occupier under Government to convert his tenure to freehold by a moderate exercise of industry, frugality, and self-restraint. There is a reasonable apprehension in the minds of many experienced Indian officials in regard to the policy of fixing a permanent limit to the land revenue. It may, therefore be useful to show that this system of redemption would not diminish the growth of the public revenue. Let us suppose that Government would accept redemption on the plan of 5 *per cent* per annum paid half yearly, to redeem principal and interest in 35 years. This is the rate at which loans for the purchase of the freehold of their farms by Irish tenants are advanced by Government. But no advance of capital would be required in India, as in Ireland, this operation being for the redemption of the Government land, which is the capital. There would not, therefore, be that risk which must attend advances of capital made by Government to one class of its subjects out of the general fund. A landholder could begin to redeem by paying double the present assessment. For example, a man holding 20 acres, at the average rent of one rupee an acre, who desired to convert it into freehold—the land being, we may suppose, estimated as worth 20 year's purchase—would have to redeem 400 rupees, the redemption rate upon which, at 5 *per cent*, would be 20 rupees. He would thus have to pay 2 rupees an acre for 35 years, one being the present

rent, and one for the annual redemption. At the termination of the 35 years his land would be his own property. A very moderate amount of thrift and industry would accomplish this, the average present rate of assessment is so low. For the cultivator in British India would, even with this addition, still pay no more than the common rate charged to their tenants by the rulers of Native States. And how would the Government stand? There must be an absolute exclusion of the use of the redemption fund in anything but the payment of public debt, or the purchase of the guaranteed railways, or when these are exhausted, loans for reproductive works."

It will be seen from the long extract just quoted that Sir James Caird's practical solution of the ryot's indebtedness was the formation of a free peasant proprietary in the country. Of course, there is still the burning controversy whether the State can be held to be the owner of all the land in the country, or its tillers and occupiers. Sir James entertained the opinion that the State was the owner and therefore went on the track of converting that ownership into the freehold property of the peasant. Keeping aside this controversy, which is not quite relevant to the subject treated here, it may be observed that the scheme of copy free-hold propounded by Sir James Caird will be admitted by all those who have carefully endeavoured to solve the problem of the indebtedness of the Indian peasantry, to be the best and must still hold its supremacy against all other panaceas suggested from time to time. It should be remembered that Sir James was one of the recognised authorities on agriculture in general and specially in reference to Western agriculture. It was owing to his expert knowledge and great practical turn of mind that the Marquis of Salisbury had specially enjoined him to make a separate report on the condition of the Agricultural masses of this country. It should also be remembered that Sir James did not come to India to learn the conditions of the Indian people

for the first time. As he himself observed in his rejoinder dated 28th August 1880 to the Despatch of the Government of India No. 38 of 1880 to the Secretary of State, he had been a careful student of the subject for several years before, specially by reason of his being a member of the House of Commons. For a clearer apprehension of Sir James Caird's full competency to speak as an agricultural authority on the Indian peasantry, the following extract may be quoted from his letter just referred to.

"The concluding paragraph of the Despatch refers to the shortness of my stay in India, and my want of acquaintance with the language, habits and customs of the people as disqualifications for forming a sound opinion on the case. The first would be an objection equally valid in any case where a physician is called in for consultation or a Viceroy, Governor or other stranger to the country is for the first time appointed to a leading post in India, and in regard to the second, the variety of language, habits and customs is so great that no one, even of the permanent officials there, can hope to master them. But the subject has been long under discussion. I was present at and took a very humble part in the discussions and divisions in Parliament 20 years ago, when the Government of India was taken from the Company and committed to the Crown, and have since attended Parliamentary Inquiries on India and have carefully studied the evidence of the most capable administrators of that country. The opinions I have been led to form, whatever may be their value, are at least the result of long and careful study, completed and applied by personal observation and inquiry in India itself."

The Secretary of State had passed on Sir James Caird's a separate report to the Government of India for their opinion. That Government was then presided over by Lord Lytton as Viceroy. The most prominent member of the Council as well as the most dominating was Mr. (afterwards Sir) John Strachey. By the time the Government of

India submitted their opinion to the Secretary of State there was a change of Ministry in England. The Conservative Cabinet of Mr. Disraeli was succeeded by that of Mr. Gladstone. The Marquis of Hartington was the Secretary of State for India. The Indian Government's Despatch of 8th June 1880 was, of course, addressed to him. So far as the scheme of Sir James Caird for the creation of a freehold peasantry was concerned they observed as follows:—(Para. 33—redemption of land revenue) “ Though Mr. Caird advises that the power of transferring their lands should be withdrawn from landholders for their own and for their country's good, yet he at the same time recommends that all landholders should be allowed to redeem the land revenue payable on their holdings by paying double rent for thirty five years. Over the lands thus redeemed the landlord would, of course, have the fullest possible power of transfer, sale and mortgage. It might, perhaps, be observed that this proposal, to allow the landholder to redeem his land revenue and create for himself a “ freehold ” is somewhat inconsistent with the recommendation that the power of transferring their lands should be withdrawn from all land holders ; but we for our part apprehend that much good would result from any strengthening or improvement of tenures in land, provided that the boon can be given without serious pecuniary loss to the state But such redemption would have to be at the rate of 25 years' purchase of the land revenue, and it is doubtful whether, in a country where the interest of money ranges from 6 to 12 *per cent*, any large sums would be invested in redeeming the land tax at a rate yielding only 4 *per cent* interest on capital. If such redemptions were ever made on a large scale we then think the Government of the day should hesitate to invest its capitalised revenue in public works, though the money might very well be used either in redeeming the national debt or in converting it from 4½ to 3½ *per cent* stock ”

It will be seen from the two extracts just quoted that the Indian Government of the day were totally unfavourable to Sir James Caird's project. The inconsistency, they point out regarding Sir James's views as to alienation of state land had reference only to the then existing conditions of affairs. But that alienation would, of course, be inoperative as soon as the freehold scheme was substituted. So that there was no inconsistency whatever in what Sir James had urged and the transparent fallacy of the line of reasoning adopted could be easily discovered. And as to the rate of interest it is true that the ordinary one ranges from 6 to 12 % for all financial and commercial transactions. But it has hardly been the case that landowners obtain such a high rate of interest on their lands. The owner of a land deems himself exceedingly lucky to obtain from 4 to 5 *per cent* net, after all rates and taxes and other charges on his land are met. So this specious official argument cannot hold water. But it may now be not unprofitable to quote the reply which Sir James gave to this part of the despatch of the Indian Government. He had already met Sir William Wedderburn at Ahmednagar and had the benefit of his varied experience in matters of land revenue and land tenures. Sir William was greatly in favour of a return to the older system of a settlement of revenue in kind which was so elastic and which was also self adjusting, according to the quality of the harvest of each monsoon, and so beneficially in vogue in many a Native State. Sir James was much impressed with it ; so he observed in his rejoinder as follows :—

“ This (meaning Sir William's) scheme of freehold tenure acquired as described in my report, is the goal to which our aim should be directed. There are more ways than one of reaching it and whether it be by this, or by any other plans as are developed in my report, or by both, there will be no safety to the people or Government of India till some self-acting principles of progress are adopted. A

system of which it can be said with too much truth not only that it exhausts the soil, but that the rent paid by the Collector to the State is often doubled by the exaction of the lower class of native officials, through whom payment is demanded, admits of no defence. What is required on the part of the state is a clear recognition of the problem to be solved, and a course of action which will bring order out of blind routine and secure the just reward to industry and thrift." That was the final verdict of Sir James Caird on the hide-bound system of land revenue to which the Indian Government has tenaciously clung and still clings from motives which it is impossible to fathom. To those who have impartially studied the problem in all its phases, it is as clear as the noonday sun that Sir James Caird's scheme of redemption of the land revenue was the best solution of the agrarian problem. Viewing it by the light of the conditions that have prevailed since 1880 the present writer has no hesitation in observing that it would have proved of incalculable benefit to the Indian peasant and the Government alike had it been adopted. For the great misfortune of India Sir James Caird's scheme was vetoed by the conservative bureaucracy in this country and by their counterpart in the India Council. Under any circumstances, the experiment was worthy of a full and fair trial in a single province, say, like that of Bombay or Madras where the ryotwari system is so universal. But no chance was given to it and it was strangled at its birth. Thus the very first constructive effort to redeem the indebted peasantry failed owing entirely to the stubborn opposition of the infallible bureaucracy.

Let us now turn our attention to the outside non-official endeavour, so disinterestedly and conscientiously made by Sir William Wedderburn himself. But before his scheme is referred to at some length, which is necessary for a clear understanding, it may be useful to mention the small palliative measure which the sympathetic Government.

of Lord Ripon adopted to give a kind of help to the ryot to enable him to make small improvements on his land and otherwise to meet his pressing requirements. A resolution was published describing how the State could advance loans, generally known as *takavi* to needy agriculturalists under certain limitations and restrictions. And though these advances are of a more liberal character at present than they were at the commencement owing to strong public criticism during the two severe famines at the close of the nineteenth century, it may be observed without contradiction that the advances are generally looked at askance by the ryots and therefore not so extensively availed of because of the trouble, vexation and even blackmail, to which they have to submit before the necessary advance applied for is given. Moreover it is a fact that it could not be obtained immediately. Circumlocution and red tape have to go their round before the grant is sanctioned. Whatever official apologists may say in defence of the system at present in vogue there are no two opinions among the peasantry itself as to their unsuitability for all their immediate and practical needs. The *takavi* advances are a mere palliative and in no sense a help to the ryot to diminish the load of his indebtedness.

We now come to Sir William Wedderburn's project. So much did he consider the eminent expediency of ameliorating the unhappy and desperate condition of the Deccan ryot that he had after serious consultation with many leading citizens and bankers proposed an Agricultural Bank with a modest capital to be tried in one of the districts of the Deccan. It would be well were the scheme to be related here. The following is an extract from the speech he made in London at a Meeting held on 4th July 1883 at which Mr. John Bright presided and where he propounded the scheme which had been resolved in Poona.

He said his object was—"to ask for help in obtaining
• for the undertaking the support of the English public.

Though land banks had prospered in other countries they were new to India. The first thing to be done was to acquire a certain amount of local and special experience by observing the actual working of such an institution in India. This it was proposed to do by starting an experimental Bank, under good local management, upon a limited scale, and within a limited area. For various reasons the Poona district had been selected for the experiment, the system followed would be that which had been found most successful in practice elsewhere, modifications being gradually introduced as experience may suggest. It was necessary to have a clear view of the peculiar position of the cultivator. . . . In March 1881, a rough project for an agricultural bank was drawn up under the auspices of some leading capitalists in Bombay, and the Hon. Mr. Mandlik introduced in the Local Council a Bill for its due incorporation. The Government of India responded in the most liberal spirit, agreeing to carry out a voluntary liquidation by way of experiment in one division of a Deccan district in the way proposed. They also agreed to advance the cash necessary to compromise the claims, the amount to be collected from the ryots in moderate instalments over a term of years. A similar liberal spirit has been shown as regards the collection of the bank's future advances. The Government have agreed that the bank's advances should be treated as advances made under the Land Improvements Act, and recovered when necessary through the revenue officers of the district and village, instead of by the Courts and bailiffs. The policy of the Government was announced in November 1882 by Major Baring (now Lord Cromer) in his speech on the Bill to amend the Land Improvements Act. He explained that Government wished as far as possible to improve the system under which agricultural advances from the Treasury were made and recovered under the Act, but that they hoped much more from the encouragement of private enterprise. Meetings were held at Poona, and a committee

formed ; and on the 23rd of November 1882 an influential deputation of leading capitalists waited on his Excellency Sir James Ferguson, at Government-house, and set forth in some detail the arrangements which, according to their experience, would be the best in order to establish an experimental bank in the Poona district. In reply to this address his Excellency expressed his sympathy with the movement, and mentioned that he had personal experience of similar institutions in the Australian Colonies, which had been very successful. He referred specially to one in New Zealand whose working capital was three millions sterling, which had paid a dividend of 15 *per cent* for many years, and had accumulated a reserve fund of £300,000. The special advantages of India as a field for such an enterprise are the large margin of profit from cultivation when capital provides irrigation and manure, the merits of the ryot as an honest debtor, the existence of a skilled agency for money-lending, and the favourable attitude of Government. He wished all present could witness the almost magical transformation effect around the city of Poona by means of water and manure. In no other country does capital employed upon land give so rich and so certain a return. The ryot is a model paymaster, being filled with a religious desire to pay his debts—not only those incurred by himself, but also those incurred by his father and even remoter ancestors. To leave ancestral debts unpaid is in his eyes a shameful thing ; it is as though he refused to his father due funeral rites. This strong religious sentiment is indeed the sheet anchor of the ryot's credit. In the hereditary trading class of India is an unrivalled agency for the distribution and collection of loans. At present the actual money lending business of the Deccan is in the hands of native soucars, chiefly Marwaris. These local capitalists thoroughly understand their business ; in each village they can tell you to a nicety the means and character of the individual ryots, and they are very shrewd,

patient, and economical in their management. About one-half the total capital acquired has already been offered from the four Deccan districts. As to the special disadvantages attaching to such an enterprise in India, from a banking point of view, there is no real and serious difficulty except that arising from the poverty of the individual ryot and the want of solidity in the security he is able to offer. He is, indeed the absolute proprietor of his holding, subject to the payment of the Government assessment; and if this Government demand were either fixed or limited in a definite way, the security would be good; but this is not the case, the demand being liable after every thirty years to an enhancement which may swallow up the margin of profit upon which the mortgagee depends. The Poona Committee have asked that in the area of experiment the existing rates should not be disturbed for a period of twenty years from the present date. He submitted that the facts set forth showed that the undertaking rests on a good commercial basis, and he asked the meeting to encourage the local efforts made in India by securing for the enterprise some active and effectual support in this country. "

So far as to the laudable efforts made by the sympathetic Sir William Wedderburn in Poona for the establishment of an agricultural Bank as a trial. He had the full support of the Government of Bombay at whose head was Sir James Fergusson who himself had had great experience of such a Bank in New Zealand. The proposal had also the cordial support of Lord Ripon's Government associated as it was with a financier of first class reputation as Sir Evelyn Baring (now Lord Cromer) who held the portfolio of Finance Minister. Of course the proposal had to run the gauntlet of the Secretary of State for India in Council at Westminster mainly composed of retired Anglo-Indian officials long out of touch with the economic conditions of India, specially agricultural, then prevalent. It was well known in this country how grievous was the condition of

the Indian ryot generally after the great famine of 1876-7 as related in those ponderous volumes of the first famine commission which was so ably presided over by such an expert in agriculture as Sir James Caird. Under the circumstances, Sir William was wise in going to London for the purpose and specially enlisting the sympathy and support of leading parliamentarians and others who took a keen interest in India and her people. He was able to convene a meeting of some of these at Exeter Hall under the auspices of the East India Association whereat Mr. John Bright presided. No better Englishman could have occupied the chair having regard to the fact that for years together, say from 1850, he was the strongest advocate of Indian interests in the House of Commons. Sir William read his paper there from which we have already given a copious quotation. But it is important to recall some of the salient observations which Mr. Bright made on opening the proceedings at the Meeting. After stating that the question which the meeting had to consider was in no way controversial or had any reference to the policy of the Indian Government he proceeded as follows:—"Great as is its importance at the present time, every day its importance is increasing, and if now it should be neglected, the time must come before long when it will force itself upon the opinion and the policy of the Government of India and the Government at home." How prophetic seems to be this utterance fully 33 years after. Is there any doubt in the mind of any impartial person, who has carefully watched the steadily declining condition of the Indian ryot from 1876 downwards, that the subject has absolutely forced the attention of a Government not too willing to broaden its angle of vision and generally hide-bound in matters agricultural, notably since the date of two severest famines at the very end of the nineteenth century. In the interval between 1876, when there was a general famine throughout the land, and 1896-7 and 1899 and 1900, the

deteriorating condition of the agriculturist was the general theme in the press of the country and among many onlookers. Agrarian riots, here and there, more or less serious, were not uncommon. We may only instance the one at Pubna in the Bengal Presidency. Again, the various pieces of tenancy legislation which were passed by the imperial and some of the provincial councils to improve the condition of the ryot were conclusive evidence of the fact. Indeed, at one time, after the Pubna riot, there were not wanting some articles even in the English press apprehending agricultural danger in the near future. The London *Spectator*, then a weekly liberal journal most well-informed on Indian affairs, had an article headed "The Great Indian Danger" in which the writer seriously surveyed the entire position in 1882 and considered that there was in the future no greater danger to India than the impoverished and almost heart-rending condition of the agriculturist. It was no exaggerated picture that he drew, but a most faithful one. The object of the writer was to rivet the attention of the Home Government and the British people alike on the subject as demanding some satisfactory measures of ameliorating that condition. The following extracts tell their own tale.

"All accounts, independent and official, show that the ultimate difficulty of India, the economic situation of the cultivator is coming to the front in a most disheartening way, and is exciting among the most experienced officials a sensation of positive alarm." After describing the condition of occupiers in permanently settled territories in Bengal and the Pubna riots the writer further proceeds to observe as follows :— "They (the officials) in fact, dread lest the spirit of resistance to rent already manifested in Pubna and other fertile countries should become general and end in a movement, a passive insurrection with which the Government could not cope, and which might break the sheet anchor of Indian finance, the Land Revenue

of Bengal. . . . In the Mahratta country matters are even worse. Mr. (afterwards Sir) William Hunter's speech on the condition of the peasantry there, wisely telegraphed *in extenso* to the *Times*, was uttered before the Viceroy in Council by a servant of their own, and was uncontradicted. Mr. Hunter declares that in the wide Mahratta country, filled by the people who once conquered Central India and defied us, people made for guerilla war, the situation is going from bad to worse till the peasantry, by the admission of the special Judges appointed to examine their debts, not only cannot pay them but cannot pay the Government assessment, their only rent, and have, in fact "not enough to support themselves and their families throughout the year". This means that in these great districts, which are fertile, though possibly overcropped, the population lives in bad years upon the verge of starvation, and is perpetually increasing its permanent debt which can never be paid except by the surrender of the fields, without which peasants consider their case desperate." No doubt small palliative measures in this and that province have since been introduced and worked in a rough and ready fashion. It is also true that owing to the more extensive construction of railways new markets for the produce of the cultivators have been opened. It is also true that a vast quantity of what is called culturable waste land, has been brought into use with the view of feeding hundreds of thousands pressing on a limited soil for means of subsistence. Again, owing to the establishment of cotton, jute, tea, and other industries, a fraction of unemployed labour has been supported and lastly valuable merchantable crops like cotton, jute and seeds have been raised in larger quantities with better remunerative prices. All these factors it may be admitted have for the time somewhat relieved the parlous economic situation of the agriculturist. At the same time other factors have contributed not a little to the great costliness of living which obliged the

Government only the other day to institute a commission of inquiry into its causes.

Revenue enhancements at the same time have gone on all over the country during the last 30 years so that there is a strong conviction in the minds of the most well-informed in these matters that the agricultural condition is no better than what it was in 1883, if any thing worse, having regard to the two appallingly severe famines at the close of the 19th century and the havoc played by the plague. But to return to the further pertinent observations which Mr. Bright made at the London Meeting. "The fact—if it be a fact—that 80 per cent of agricultural population require to borrow is an astounding and distressing fact; the fact that 30 per cent are so hopelessly poor you can scarcely expect to improve their condition by lending to them, and the fact that 50 per cent require loans and require them with a fair chance of their being able sometime to repay the loans, these facts seem to show that the vast bulk of the agricultural population is in a condition very unsatisfactory. . . . Now the object of this Meeting today is to discuss a question and a scheme which proposes to offer to the Indian cultivator a reasonable amount of loan for a reasonable interest, and to improve the mode in which the interest is annually collected, so that it would not be necessary to go through the courts, and to make an absolute ruin and a beggar of the man who finds that he is behind in the regular payment of his interest. . . . It would be a very great advantage to India if this system could be established in such a manner that confidence in its solidity and security should be created in England, and that the managers of these loan societies or banks—loan societies, perhaps, is a better name—should be able to secure additional funds in this country, invested by capitalists here, in order that they might have power more widely and extensively and completely to carry out a system which seems likely in my view, and in the view of many much more competent to

judge than I am, to be of immense advantage to the present cultivators in India. . . . While it would set them free from this extreme pressure it would give the ryots hope with regard to the future, and every man on his little farm would cultivate it with more resolution, and I doubt not with more success, if he had a confident or a fair hope that this industry would be fairly repaid. . . . The prospect—the political prospect—in India would be greatly improved if such a scheme as this could succeed, because if you have the vast population in a state of constant distress, they must be in a state of constant discontent of some kind and if it were possible by some large and widely extended scheme of this kind to bring comfort into the homes of the cultivators, there could be no doubt that, with more comfort and a greater degree of happiness in their families, there would be a greater degree of contentment and they would look up with somewhat more of satisfaction to the Government who controls their affairs. . . . If there be one place in the world and one people in the world whose interests we are bound to consider, it appears to me that country is India and that people is the population of India.”

Truer words were never better spoken by a sterling Englishman whose deep and abiding sympathy for the masses of India never bated by a jot till the last day of his life. I unhesitatingly state that what Bright said 33 years ago is truer even in a more accentuated form today. Many other Englishmen of less distinction and renown have off and on expressed the same opinion specially during the aftermath of the last two severe famines. But it is sad to relate that neither the strong advocacy of John Bright nor the influence of well-known persons who had gathered at the London meeting was of any avail. The scheme was hung up by the India Council who had oracularly pronounced it in their great wisdom to be impracticable and the scheme remains till this day pigeon holed. That was the fate which overtook the first and last attempt strenuously made by a

body of non-official persons English and Indian to start a Bank for the relief of agricultural indebtedness by private enterprise with the small assistance of the State. Between 1883 and now many grave political events have occurred and many have been the changes in the economic condition of the country which affected its people for better or for worse. In 1885, there was the Penjdeh scare which created a huge financial deficit which was partly met by new taxation and partly by raids on provincial assignments prevalent at the time. At its heel came the peremptory order of the then Secretary of State, no other than Lord Randolph Churchill, to augment the Indian army by an addition of 10,000 English and 20,000 Indian troops, in face of the strong minute of dissent of the two ablest members of Lord Dufferin's Government. Sir Auckland Colvin the Finance Minister and Sir Courteney Ilbert the Law Member protested against any need of increased troops at a heavy cost while the Simla Army Commission had only a few months before strongly opined that for both internal defence and external aggression, the existing army was ample. The true reason soon became known namely the forcible acquisition of Upper Burma. This involved the reimposition at first of the Income Tax, repealed in 1865, and of the increase of the Salt Duty later on from Rs 2-0 to Rs 2-8 per maund. In 1888 the impoverished condition of India, notably of the agriculturist, was so widely talked of in and out of the press that Lord Dufferin instituted a departmental inquiry altogether of a hole and corner character to investigate the fact. A report was published a few months later, which, in spite of its careful editing, revealed the fact that the popular belief of the impoverished condition of the cultivator was generally correct. While this was the case exchange difficulties of a serious character arose by reason of a continued heavy fall in silver. There is not the slightest doubt that its effect was to materially reduce the silver capital of the masses which has had no

little influence on the deterioration of their condition. At the same time, import duties abolished in 1882 were again reimposed. It was also found that after 1893, the annual harvests in one part of the country or the other were far from satisfactory. Scarcity prevailed till at last the appalling and disastrous famine of 1896 overtook the land when it became manifest how rapidly had the purchasing power of the people declined. It was followed the next year by a terrible plague unprecedented in its intensity the like of which was never known before. The loss of human life from the famine was startling as may be learnt from the report of the Macdonell commission which was published. The agriculturists were exceedingly hard hit. Their number of live stock, the mainstay of the industry, was almost swept away and it is a fact that the number which existed in the country prior to 1896 has not yet been made up. The plague also carried away a large number of the able bodied agriculturists. The Census of 1901 fully relates the story of the havoc both from the famine and the pestilence. While yet unable to stand on his legs, the ryot, by a cruel fate, was once more hurled prostrate by another severe famine which occurred in 1899-1900. The dismal story of this calamitous visitation may be read in the pages of the third Famine Commission which was presided over by Sir James Lyall. Thanks to the generous policy of famine instituted by Lord Curzon, specially the policy of revenue remissions and suspensions on a liberal scale, the ryot was slowly resuscitated. He was able to crawl and it was not until 1905 that he again stood erect on his legs. He began his operations with a "clean slate" to use the words of Lord Curzon, to whom India so far is grateful for his statesmanlike famine policy. From 1905 and forwards India by mercy of providence has escaped those awful physical visitations which closed the 19th century. But it is useful to recall at this stage one important movement which has a great bearing on the condition of the agricul-

turists. So impressed were the people of England who had through the Lord Mayor raised a magnificent subscription for the relief of Indian famine at the opening of the 20th century that a representation of an exceedingly sober but convincing character was prepared and signed by the most influential and distinguished persons in London, from the Archbishop of Canterbury and well-known members of the two Houses of Parliament to others of various professions including merchants. That memorial was submitted to the Secretary of State praying that in the interests of the impoverished and indebted agriculturist ryot, it was highly essential to appoint a mixed commission of qualified and experienced Englishmen and Indians to have an exhaustive inquiry into the economic condition of typical villages in the various provinces of the country. But grievous to say, it was refused on grounds which were exceedingly flimsy. It is a matter of profound regret to have to say that every laudable and reasonable appeal made to the Government here or at home to have once for all an independent and exhaustive inquiry into the condition of the wretched ryot has been uniformly refused. It has been broadly suspected, not without reason, that the agricultural poverty of the masses is the grimmest skeleton in the cupboard of the State. Whatever it may have done during the last forty years in mitigation of that poverty must be deemed to be mere palliatives. But we all know that in serious agricultural problems of vast magnitude palliatives are worse than useless. A radical cure can only be found in a whole-hearted well-reasoned and practical remedy suggested by the wisest and most experienced of the land. But sad to say, no such remedy yet seems to loom in the near distance. The latest palliative of a more general character is the institution of the so-called cooperative credit societies.

Now, there is no reason to carp at the institution of these new-fangled societies. Such societies elsewhere have been not for one but for many purposes and so

too have those that have been started in India during the last ten years. It is not the object of this paper to criticise its merits or demerits whatever they may be. Official optimists have blessed them and so too many of those who have been associated in their working in an exceedingly narrow and circumscribed circle. The Imperial Government itself was constrained after the first ten years of the operation of the Act to amend the original enactment passed in 1904 in order to correct the many defects which were discovered during the interval. But so far as these societies have been brought into existence for the purpose of relieving agricultural indebtedness, I for my part must pronounce them a failure. Long before the legislation was introduced into the Council, the conviction had grown on me that the only way to bring relief to the cultivator from his debt and make him comparatively prosperous for his own benefit as well as for the benefit of the State was by means of agricultural banks, more or less on the line of the Agricultural Bank of Egypt. I had expressed that conviction of mine as far back as 1901 in my presidential address to the Indian National Congress held in Calcutta in that year and the more I have paid attention to the subject, the more I am confirmed in that conviction. Without entering into statistics, it may be said that the majority of those 70 to 80 *per cent* of the population who are engaged in agricultural pursuits are in an impecunious and indebted condition. At a very rough guess it has been estimated that the total amount of such indebtedness cannot be at the lowest estimate less than £250,000,000, say Rs 375-crores. There are those who have put it at the higher figure of Rs 500-crores. But take the lower estimate. Is it possible even after 25 years of the working of the co-operative societies that they could ever manage to wipe off this immense load of debt? Where are the members of such societies whose joint capital and credit can be of such a nature as to command the relief sought for? In my opinion it

is beyond their power and capacity. The Government may tinker and tinker their legislation as they have the many Tenancy Acts in the different provinces. But what is the sum total of the result? Have the agriculturists been prosperous? Have their *takavi* advances and their miserable land improvements enabled them to grow two blades of corn where they before grew one? Can the authorities place the public in possession of any irrefragable evidence of the kind? If not, the only inference can be that these several legislative enactments have failed in their fundamental objects. To go no further, look at the Deccan Agriculturists' Relief Act of 1879 the doom of which the few far-seeing had foretold in that very year. We had optimistic reports every year from the special officer just as you are having optimistic reports of the new fangled credit societies. But even the best of optimism must give way before the grim sternness of facts. And so it was that slow-footed nemesis eventually overtook the optimism of the officials and it has thus happened that after 34 years of the operation of the Act, a Committee of the Government's own choice has pronounced its verdict of failure pointing out the several causes that have contributed to it. The same fact is bound to overtake the agricultural credit societies. Their constitution, the method and manner of their working and the new control and grip which the Government are going to have over them, all these must eventually toll their death knell. The indebtedness of the agriculturist is so colossal while the resources by way of capital of the societies are so extremely limited and hedged in by restrictions and limitations that there never can be any emancipation of the ryot from his slough of indebtedness. Agricultural Banks are their only salvation; and here we shall now point out how a single agricultural bank, established in Egypt, has achieved the most satisfactory results, beneficial alike to the fellaheen and gratifying to the state. The condition of the Egyptian cultivator

is analogous to that of the Indian in many respects ; if at all, according to the official reports, a trifle worse. And yet what a beneficent change has come over the fellaheen since the bank opened its doors to lend to those who had a reasonable security to give and who stood in need of money from as low as £5 up to £500. The narrative of the institution of that bank is of so important a character that even at the risk of lengthening somewhat this paper, it is useful to relate it, and I should relate it not in my own words but in the words of His Majesty's plenipotentiary in that country, one who had most ably conducted its affairs for twenty two years and changed the entire financial and economic condition of its people for the better. Lord Cromer, then Sir Evelyn Baring, Finance Minister of Lord Ripon's Government is a name to conjure with. He had been fully conversant with the condition of the Indian agricultural ryot. It was he who had introduced the Agriculturists' Loan Act and had besides their permanent well-fare always at heart. At the same time, he was no hide-bound member of the permanent bureaucracy and was thus able to have a broad vision of what were the needs and the requirements of the ryot and how he was to be saved from his indebtedness in order to be prosperous and become the greatest backbone of the state. If then such a competent personage discarded cooperative credit societies for the Egyptian fellaheen and deliberately gave his whole-hearted support to the institution of the Agricultural Bank, is it not safe to assume that such a bank, if established in India, with such few local modifications as may be necessary would prove most beneficial to the ryot and the State alike. But along with Lord Cromer, there was another financier of great practical statesmanship who was even more directly concerned in the institution of the Egyptian Agricultural Bank. He was the late Sir Elwin Palmer who had been for fifteen years in India and had known all about the condition of the Indian agriculturist even more intimately than Sir Evelyn Baring. When in

1904, so much was loudly talked about the marvels and miracles which the Cooperative Societies' Act was declared by its sponsors to achieve I was irresistibly impelled, for my own complete satisfaction, to address him a letter inquiring whether from his experience of the economic condition of the agriculturists when in India, he would recommend for the ryot the cooperative credit societies which were then to be brought into operation under the Act then passed. Below I reproduce verbatim his reply dated 15th November 1904:—

“In answer to your letter, I have much pleasure in sending you a copy of the Agricultural Bank Concession, a copy of its statutes and my last annual report. The bank has greatly progressed this year, we now have over £3,500,000 out in loans, the number of loans being about 115,000. The Bank is doing untold good to the people who now get money at a reasonable rate of interest. It is the only system that has ever succeeded. Cooperative Credit societies in the East are all nonsense. Any one who knows the natives, knows they will never cooperate. I was fifteen years in India in the Financial Department and I know full well how much a bank as ours is wanted there; but it must be on the same lines exactly. We are fast eradicating the usurers from the villages. I started the system myself when I was Financial Adviser here and I am now President of the Bank. I have this year started giving advances of selected seed and manure besides money. It is having a wonderful effect. Already this is done in conjunction with the Agricultural Society who provide the seed and manure.”

The above letter was written in 1904 when the Bank was just started. To what colossal proportions it has reached at present and to what amount its original capital of 2½ million pounds has swelled besides the amount of debentures it has raised will be related immediately in the sequel. But here is the testimony of a distinguished financier,

who was its founder and most successful Governor and who had himself served in the Indian Finance Department for many years, as to the worthlessness of the Cooperative Societies to render any permanent good to the ryot.

We now come to the observations made by Lord Cromer in his successive annual administration reports of Egypt on the subject of the indebtedness of the fellaheen and the initial method of assisting them by loans from the National Bank of Egypt till the establishment a few years later of the Agricultural Bank. In his report for 1898, he observes :—
“In my reports for the years 1895 and 1896, I explained that as an experimental measure, the Government at one time advanced £E10,000 in small sums to the fellaheen. The experiment proved sufficiently successful to afford encouragement for private enterprize to enter this field of action. The Egyptian Credit Foncier consented to lower the minimum amount of its advances to £E100. In-as-much however as the advances made by village money-lenders are generally in small sums of less than £E10, it was evident that the limit of £E100 was still too high to reach the majority of those whom it was desirable to relieve. A further tentative step has now been taken in the direction of dealing with this question. The newly created National Bank is about to make advances of small sums up to £20 at 9% interest. Further the Bank offers advances up to £100 at the same rate of interest to those who wish to pay off their old debts; repayment to the Bank will be made in five yearly instalments due in October of each year, that is to say, at the time the cotton crop is gathered. All such advances will be reported to the Government who will instruct the tax collectors to enter them on the “Wirdes” and effect the recoveries with the taxes. The 9% interest will be distributed as follows:— $1\frac{1}{2}\%$ will be paid to the local Agents of the Bank, $\frac{1}{2}\%$ will go to the tax Collectors, the remaining 7% will be retained by the Bank which will be put to some

expense, notably in the direction of appointing a thoroughly trustworthy European Inspector who will visit the villages and control the actions of the local agents. The services of an official of this description are indispensable. The experiment will for the present be tried in one district only. Should it prove successful, the Bank will be prepared to extend its operations." At the time the prevalent rate of interest for the money lender to charge the fellaheen was 40%. Lord Cromer was fully conscious of the fact that his scheme was a beginning only and it was in an experimental stage. No doubt, there were evils attendant on advancing loans at 9%, the principal one being the temptation to the cultivator to use his margin and indulge in improvidence. Though conscious of this chief objection and also of some minor ones, he had the courage to give the scheme a fair chance and not to refuse to allow it to be tried at all as the wise men of the India Council did in respect of Sir William Wedderburn's proposal. Lord Cromer observed that while he was perfectly aware of the objections in his opinion they did not "constitute a sufficient reason for total inaction but they enjoin watchfulness with a view to deciding, by the light of the practical experience which will eventually be gained, whether it will or will not be desirable to continue the experiment now in course of progress."

The experiments, it need hardly be observed went on till 1902, all throughout under the auspices of the State Bank, namely the National Bank of Egypt. Each year improved the imperfections found in the previous one, while the loans became so extremely popular that the experiment came to be extended to almost half of Egypt. We shall pass over these experimental stages of progress all-round so as to narrate how it came to pass that the State Bank, for sound and obvious reasons, transferred this part of its business, namely, advances to the fellaheen, to a special bank established for this and this purpose only. But here

we may bear in mind the very sound and shrewd observation which Lord Cromer made in his report of 1899. "It was felt, however, that no permanent success could be obtained unless the philanthropic considerations which cluster round the treatment of this subject were so far discarded as to place the matter on a sound commercial basis and thus insure to the Bank an adequate remuneration for their capital outlay."

Quite convinced of the success of the experiment, the final step of having an independent Agricultural Bank with a large capital to meet the growing applications for the loans was taken. In 1902, such a bank was first established with a capital of $2\frac{1}{2}$ millions sterling. Interest at the rate of 3% was guaranteed by the Government. There was nothing unusual in such a guarantee, having regard to the magnitude of the operations to be undertaken. This is the kind of initial state aid which ought to be afforded by the Government of India to such an agricultural bank which might be established in this country by purely private enterprise on an absolutely sound basis and with a fairly large amount of capital. The Egyptian Government was wise in giving such a guarantee which, so far as my knowledge goes, it has never been found necessary to utilise. It was arranged that the rate of interest for advances to the fellaheen should be fixed at 9% only. Lord Cromer rightly observes:—"The distinctive feature of the Egyptian system is that, although the whole of the management is in the hands of the bank, the Government tax-collectors collect the sums due on account of interest and sinking fund." The commission allowed to the Government taxgatherers was 1%, it being understood that these collectors of taxes collected the interest due to the Bank and the instalments of principal at the same time that they realised the Government dues. Another essential part of the business was a highly paid but most efficient and honest supervision, which was deemed a *sine qua non*. In his report for 1903, Lord

Cromer refers to the numerous inquiries made from outside countries as to the success of his experiment and states as follows:—"That plan is very simple, but it differs materially from any which, so far as I am aware, has been adopted elsewhere. Notably it is in no degree to be confounded with the co-operative systems in force in some other countries." The Bank went on flourishing till in 1906 its capital was increased to $3\frac{1}{2}$ millions with an additional debenture capital. There was an understanding that when the loans advanced had reached £7,000,000, the Bank should reduce its rate of interest to 8%. It may be useful to notice here the kind of loans which the Bank gives to the fellaheen:—Small loans, called A loans, not exceeding £20 secured by the borrower's note of hand only and repayable in one sum within 15 months; and larger loans, called B loans, not exceeding £500 secured by first mortgage on land worth at least twice the sum advanced and repayable by annual instalments over $20\frac{1}{2}$ years at most. The capital in 1908 was over £10 millions and the total amount of the loans put out since the foundation of the institution was over £15 millions, divided into £2 millions for A loans and £13 millions for B loans. The outstanding amount at the end of that year was £8½ millions divided into £92,000 on A loans and £8 millions on B loans.

In the Administration Report for 1909, it is observed that there was a set-back in 1907, after unimpeded success for so many years before. But it is certain that the monies of the loans were advanced for use for legitimate purposes. It says "there is little doubt that a large proportion of the money borrowed was devoted to the purchase of land."

Lastly it may be useful to refer to the broad operations of the Bank for the year ending 31st January 1915. The total subscribed capital amounted in different kinds of shares to £3,740,000 sterling, while the Debenture capital bearing interest at $3\frac{1}{2}$ per cent amounted to £6,570,000.

The outstanding loans at the date of the last year's report amounted to as under:—

	Number	Amount	Average Amount
		£	£
" A " Loans ...	5	192	38'4
" B " Loans ...	159,337	5,491,749	34'4
Total ...	159,342	5,491,941	

It will be seen what vast strides the Bank has taken since its formation and how usefully and beneficially it has been employing its total capital in shares and debentures amounting to £10,310,000 sterling. After payment of interest on Debentures, and other annual statutory liabilities, it had £339,297 available for distribution among the shareholders. It should be remembered that the Bank was founded by European capitalists and financiers of the highest monetary reputation. The first directorate consisted of the following:—

Sir Elwin Palmer, President, the Rt. Hon'ble Arnold Morley, Sir Vincent Caillard, Sir John Rogers, K.C.M.G., E. W. Percival Foster, C.M.G., and F. Von Leonhardt. Sir Elwin Palmer himself was the first President of the State Bank which is known as the National Bank of Egypt, and when the Agricultural Bank of Egypt was specially started and the National Bank transferred all its agricultural loan transactions to the new Institution for reasons which we have already stated, Sir Elwin became its first president till the year of his death which took place in 1909. His was the financial talent that started the Bank and carried it throughout most successfully. And he knew well, from his great financial experience and also from that of the operations of the continental Credit Societies, that the last were wholly inadequate and unsuitable for the purpose of relieving the agricultural indebtedness of the fellaheen and for ameliorating his economic condition so as to make him prosper and be the strongest backbone of Egyptian finance. We are

quite confident that had that distinguished financier's life been spared he would have made it even more successful. All the same he had placed the Bank on a solid and secure foundation and clearly laid down the lines on which its future operations should be conducted having regard to the single aim and object for which it had been specially established. By the present president of the Bank, Mr. F. T. Rowlatt, and the Manager, Mr. R. G. Westropp, the Bank is being carried on most ably, with the greatest caution and care, they being fully aware of the dangers to which like other Banks, it might be exposed in some economic or other crisis. As a matter of fact it was so exposed a few years ago when there was excessive land speculation followed by bad harvests which resulted in larger outstandings; but the crisis was bravely weathered without the slightest financial injury to the Institution. The Anglo-Indian bureaucracy in this country which has been actively connected with the co-operative credit movement, has, we are aware, looked askance at this most successful Agricultural Bank, the reason for which it is not possible to guess. In all probability it is owing to want of knowledge of the true history of the Institution from the date of its inception. It may also be attributed to its angle of vision being so narrow and confined, as it is in so many other economic measures connected with this country. But to those whose vision is broad and whose financial sagacity is far-seeing there cannot be the least doubt that the only remedy by which the colossal indebtedness of the Indian peasantry could be satisfactorily relieved is the formation of one such Bank with a capital of at least one crore at the start in each of the provinces of the Empire. These banks alone can bring the ryot's amelioration. Freed from indebtedness once for all, Indian agriculturists are bound to prosper—indeed, prosper so much that they would steadily increase to a considerable extent the produce of the land and to that extent benefit the State itself. The exports of the country would

take even larger strides than what have been witnessed during the last ten years, enabling the country to meet its annual obligations with the greatest ease.

What is wanted at the present juncture is courage and enterprise among Indian capitalists themselves in each province to start such a Bank tentatively. In a colossal problem of such great moment for the future welfare of the nation no other enterprise could be more important than the foundation of such monetary institutions for the special behoof of the peasantry which directly and indirectly counts over seventy *per cent* of the vast population. There is nothing to prevent for instance such a wealthy presidency as that of Bengal or Bombay from taking an initiative in the matter. Private enterprise alone is needed. State aid there should be, but it should be of an auxilliary character. It should be firstly by guaranteeing the Bank to the extent of 3 *per cent* interest in case the bank itself is not able to pay in a single year that rate. In fact the guarantee would be of the same nature as that given to the original trunk railway lines for the first twenty-five years. If the alien railways needed that guarantee before the English capitalists put their money in them, surely the Indian Government in a matter of such supreme importance ought never to refuse a guarantee of 3 *per cent* only to all agricultural banks, started of course on sound principles with such statutory limitations and obligations as they may deem fit to impose.

Secondly it should be confined, as in the case of the Agricultural Bank of Egypt, to their land revenue officers being told off for duty to collect instalments of principal and interest, of course on a payment of one *per cent* commission, at the same time that the State revenue is gathered. But private capitalists should take courage in both their hands and follow boldly the scheme of the Agricultural Bank of Egypt so well and wisely founded by the talented Sir Elwin Palmer and so cordially and robustly

supported all through its initial stages by so distinguished a financier as Lord Cromer. The details of this kind of Bank in all its manifold aspects might well be discussed by the syndicates which may be formed. No doubt modifications will be needed to suit local conditions. But there never can be any radical difference on the principle on which the Bank should be conducted and managed, it being a *sine qua non* of each Bank started that the rate of advance never exceeds 10 to 12 *per cent*. My firm conviction is that neither any member of Credit Cooperative Societies of the character now instituted nor any legion of Government Resolutions for control, audit and so forth would be of any avail if it really be our aim and object, once for all, to relieve agricultural indebtedness. The many petty soucars scattered over lakhs of villages in the country who now finance the impecunious ryot could be well and judiciously utilized for the purposes of such banks. In reality they could be formed into a link in the chain between such institutions and the peasantry itself as they have already done in Egypt. What is wanted is a well considered and well organised start by sound men possessing the needed capital. Each Bank is bound to attain its momentum and velocity as it progresses. Only great caution and circumspection are needed at the preliminary stages. Every element and every contingency which could prejudice the initial progress of such banks ought to be avoided at all cost and hazard. The Banks should be directed and managed by men of financial experience, conversant with the needs of the agriculturists, with all prudence, caution and the highest commercial probity. Given all the conditions herein above formulated, I for one feel fully confident that such agricultural banks will prove the salvation of our peasantry and lead them as the years roll by to the highest prosperity compatible with the conditions of the country, under the all spreading and beneficent ægis of British Rule.

THE INDIAN COTTON CROP

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The recent rise in the price of cotton has naturally aroused a great deal of interest in India. Today the price is nearly double what it was a year ago, and this extraordinary recovery to pre-war levels is the chief topic of conversation in the cotton districts, where conjecture is rife as to its causes, and how long it will last. The economist in this case has simply no alternative but to reply in the much derided phrase "supply and demand;" for the conditions of the cotton trade since the outbreak of the war really do supply a most interesting illustration of the rapidity with which the forces of supply and demand can react upon each other and upon prices, or *vice versa*. There has not often been a quicker and more convincing case of a sudden fall in the demand producing a quick withdrawal of the supply, followed immediately by a recovery of the demand with consequent rise of prices due to insufficiency of the supply.

The world's cotton crops have of recent years totalled fully twenty-five million bales made up as follows:—

In bales of approximately 500lbs (000's omitted)			1902-03	1907-08	1912-13	1913-14	1914-15 Estimates
America	...	...	10,758	11,582	14,129	14,610	16,500
India	...	...	3,367	3,122	4,395	5,201	5,000
Egypt	...	...	1,168	1,447	1,507	1,537	1,300
China	...	...	1,200	875	3,931	4,000	4,000
Russia	...	...	342	664	911	1,015	1,300
Brazil and others	...	...	801	950	1,171	1,340	1,300
Total	...	...	17,636	18,640	26,044	29,703	29,400
Season's average price of American Middling ... per lb.			d 5.44	d 6.19	d 6.76	d 7.27	...

But though the world's supply has been increasing very rapidly, it has not kept pace with the possible increase of the demand which has been limited only by the amount of cotton available in good crop years and the very high prices current in bad years. In five out of the last ten years before the war the consumption was actually in excess of the supply. When the war came upon us so suddenly, however, things were rather at a standstill. Prices had again been very high, and the consumers shewed signs of rebelling. The prospects of the coming crops were extraordinarily good, the American crop especially promising a yield beyond even the 16 million bale record of 1911, and prices were sagging.

The first effect of the war upon such a market was a foregone conclusion. Demand seemed likely to be restricted almost to vanishing point, and the cotton growers were more or less panic stricken. The governments of the countries chiefly concerned were naturally much perturbed, and some of them took steps to deal with the situation by an authoritative restriction of the supply, steps which they have probably had ample time and opportunity to regret since, though it is hardly fair to blame them simply because they have turned out to be wrong. For things did look very black indeed for the cotton growers a year ago. With the official cotton markets closed everywhere, it was impossible to test the value of cotton, and the fears of an absolutely bottomless slump were therefore able to run unchecked. Perhaps it was better so than that they should have been justified, as they very probably would have been had the markets been open. As it was, prices both official and outside, (for a good deal of business was done outside at prices much below the official nominal prices) went down and down until apparently the worst was touched towards the end of October. About that time the market rather mysteriously seemed to take a turn for the better, and though the actual turning point of the official prices

was not reached till 12th December, it was quite certain by the former date that the crisis was past. And the official minimum had only been 4'25*d* per lb. for middling American in Liverpool, which was really a very high figure considering the enormous size of the crop.

But this had only been achieved by dint of much active propaganda everywhere in the direction of restricting future supply, and the effect was evident as soon as the area statistics for 1915 became available. The American acreage was reduced by about 15 *per cent*, and the sales of fertilizers about 20 to 25 *per cent*. The Egyptian acreage was only about 1,186,000 feddans (acres) instead of 1,755,270 in 1914. In India the effect varied immensely in different provinces, some shewing a reduction of over 40 *per cent*, while others actually shewed an increase; but the average reduction over all according to the second forecast was 27 *per cent*, viz. 16,253,000 acres against 22,152,000 at the same stage in the previous season. As the season progressed, it became clear that the American crop was not to be favoured with the same abnormally good conditions as in 1911 and 1914, and that the consequent effect of a lower average yield upon a reduced acreage would be a *maximum* crop of 12-million bales, while pessimistic estimates put it as low as 10 millions. The Egyptian estimates vary from 4½ to 6½ million kantars against an average of 7½ from 1910 to 1914, and the prospects of the Indian crop are not altogether good.

Under such conditions it only needed the least breath of reviving demand to set prices soaring again to high levels, and as a matter of fact the evidences of reviving trade were soon very clear. The home trade in the United Kingdom has been very active since soon after the outbreak of the war, for the working man and his wife must be clothed, and cotton is the cheapest clothing available; indeed the British working man's wife has more spare cash to spend on clothes now than she has probably ever had

before, owing to high wages and overtime, or the generosity of separation allowances. While certain branches of Lancashire's foreign trade have suffered very badly, others have done very well, and the demand for war fabrics of cotton, not to speak of the much disputed demand for gun cotton, has probably assisted the recovery. At the same time the consumption in America is touching record figures, and Japan is also very busy. At any rate the recovery when it began was very sharp, and it shews no signs of being short. The following figures at four-weekly intervals since the beginning of the war shew what has happened.

				American Middling.	Egypt. F. G. F. Brown	Indian No. 1 Good Oomra
1914						
July	24	...	...	7'38	9'10	5'12
August	21	...	...	6'20	8'15	4'40
September	18	...	...	5'80	8'00	4'20
October	16	...	...	5'00	7'20	4'15
November	13	...	...	4'58	7'15	3'88
December	11	...	...	4'28	6'45	3'76
1915						
January	8	...	...	4'71	6'30	3'88
February	5	...	...	5'05	6'65	4'18
March	5	...	...	4'99	6'90	4'00
April	1	...	...	5'62	8'10	4'42
April	30	...	...	5'66	8'20	4'60
May	28	...	...	5'14	7'60	4'30
June	25	...	...	5'20	7'40	4'40
July	23	...	...	5'13	7'20	4'35
August	20	...	...	5'42	7'60	4'45
September	17	...	...	6'44	8'80	4'95
October	15	...	...	7'23	9'90	5'50
November	12	...	...	7'01	9'60	5'30
December	10	...	...	7'66	9'70	5'60

But the question of most importance to the grower is what is going to happen. To that only the same answer can be given. It depends on supply and demand; but it is possible to indicate more clearly in what direction these forces will probably tend to operate. In the first place it may be safely asserted that in the long run the price of the crop must be sufficient to cover the cost of production in that portion of the world's cotton growing areas where the cost of production is highest, but which is required to meet the total world's demand. The facts here are fairly well

ascertained. The cost of production in Texas is certainly higher than any other important section of the cotton area, and Texas is so important a factor (nearly one third of the total American crop) that its supply cannot possibly be dispensed with, if there is any demand left at all. The present writer has recently shewn,* and it has not been seriously disputed, that the cost of production in Texas, when fairly calculated on an economic basis, cannot now be much less than 12 cents per lb., chiefly owing to the very marked increase of the labour cost. Until, therefore, the price shewed signs of getting back from the 7 or 8 cent level to something more like a paying basis, it was a foregone conclusion that the acreage in America would be reduced, and would remain reduced. Now that the price has once more touched what may be called paying levels, it is a question which only the actual figures of 1916 will answer, how far the American planter, who went off cotton to mixed farming, will find his experience in that direction sufficiently remunerative to make him perpetuate the change. It is very probable that if prices seem likely to remain about present levels the bulk of the planters will come back to cotton in full strength; but it will only be at a high price, *i. e.* about twelve cents per lb., or say 7d per lb. in Liverpool.

No one who knows the conditions of cotton growing in India will have any hesitation in saying that this means a very profitable state of affairs for the Indian cotton grower. In spite of a tendency for labour costs in the chief cotton growing districts to rise of recent years, anything like present prices pays the cultivator exceedingly well; and if only these prices can be assured, there is little question that there will be a marked extension of cotton growing in India. The basis fact of the whole situation is that India's cost of production is far below that of her American rivals; and making all due allowance for the inferior quality of the

*The World's Cotton Crops, 1915, p. 112

Indian staple it pays better than in America. If Texas can make a living out of cotton growing, India can make a fortune; and there is every prospect that not only will America make a living out of cotton in the next few years, but a very fair profit as well. Her own mills are increasing their consumption by leaps and bounds. Japan's have done the same and are likely to continue doing so. It needs only a very moderate continuance of European demand to secure a reasonable level of prices on the world's present cotton area.

When the war is over and demand again becomes normal or even active in replacing depleted stocks, we shall once more be faced with the old problem of where in the world to find a largely increased cotton crop. And in the answer to that question, India if she is wise will have a very large share, for there is no doubt whatever that India could grow not only much more but much better cotton than she is doing at present.

15th December, 1915

THE AIN-I-AKBARI— A POSSIBLE BASE-LINE FOR THE ECONOMIC HISTORY OF MODERN INDIA

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I should like to preface this paper with a word of congratulation to the Provinces where I have lived so long on the enrichment of their University by the organisation of the new Department of Economics, the activities of which will be recorded in this *Journal*. I am not one of those who fear that the study of wealth will lead in India to materialism; there is less risk of that in India than in almost any country in the world. But it has to be recognised that India's preoccupation in the past with other, perhaps higher, matters has left her poor in this world's goods; and now that she is seeking to take a more prominent part among the Nations of the Empire it behoves her to devote some portion of her energies to the acquisition of that material wealth which as the world stands to-day is a necessary condition of progress in other than merely material directions. Development, however, whether industrial or agricultural, requires trained intellect, and not a few of the failures and disappointments experienced in recent years may be traced, in part at least, to the want of this quality in the promoters of the new ventures. It is for the Schools of Economics which are now coming into existence to make good this want, and to send out in

increasing numbers young men possessed of a sound knowledge of the theory of production and animated by the desire to engage in its practice.

It is, I think, common ground that the study of Economic History is a necessary part of the training which this School will afford, and the view is gaining force that this study should be devoted in the first instance to the history of the country where it is carried on. This ideal is, however, scarcely attainable in India at the present day; some materials for economic history exist, but the history has not yet been written, and the materials require a large amount of sorting and sifting before they can be placed before any but the most advanced students. It might be thought that the official statistics of the last few decades had been sufficiently treated by their official reviewers, but even on these a great deal of work remains to be done. Most of these statistics are prepared primarily for what we may call short-period purposes; officials have to compare this year with last and to explain the difference between the two, and in this process the significance of small but cumulative changes is very apt to be overlooked. The student on the other hand has to pass over most of those short-period fluctuations which chiefly interest the official, and concentrate his attention on the slow movements disclosed by the longest series of years for which figures can be made available. Thus it seems to me that one of the earliest duties of this School will be the re-consideration and re-editing of a part at least of the mass of statistics accumulated during the period of British rule. But this period, important as it is, is all too short for the purposes of the economic historian, and the value of the figures which we possess would be greatly enhanced if they could be linked up with accurate records of any earlier date, even if there should be a considerable gap between the first and the subsequent statistics. The object of this paper is to call attention from this point of view to the

statistics recorded in the *Ain-i-Akbari*, and to suggest that it is possible (I do not say more) that they can be so interpreted as to be utilised for a base-line or starting point of the economic history of modern India.

The statistics in question relate to the latter part of the sixteenth century, an important epoch for the economic historian. The greater part of India was then enjoying a period of tranquillity, as tranquillity was counted in those days, following on the prolonged disturbances which preceded the consolidation of the power of Akbar, and the years to which the figures relate were probably (though this is an assumption) fairly typical of the period. At the same time the oversea trade with Europe was in its infancy, and (if I am not mistaken) had not yet begun to exercise that influence on the production and exchanges of Northern and Central India which is the key to most of the economic changes during the centuries that follow. If therefore those figures can be used, they will furnish a real starting-point for the modern economic history of the country.

The figures in the *Ain* show, for the majority of the parganas of India down to the southern limits of Akbar's empire: (1) the area assessed to revenue, (2) the revenue assessed, (3) the amount of the revenue alienated, and (4) the strength of the local militia. There are also lists of the rates at which each crop grown in the Empire was (or might be) assessed, and more general tables showing the average yield of these crops, and the current prices of agricultural and other produce. With these figures, it should be possible to compare the relative productivity of the different parts of the Empire, and to form a general idea of the actual productivity of the whole, and it should also be possible to draw tentative conclusions as to the numbers of the rural population, the surplus available for trade, and various other fundamental facts. So described, it sounds like a gold-mine. I believe that gold can be found, but the mining is by no means simple. I may enumerate a few of the difficulties

which will confront the student ; others are likely to appear as work proceeds.

(a) Administrative boundaries have changed, partly through the action of the Marathas and partly by the acts of British Governments, so that it is not easy, and in some cases may prove impossible, to identify the areas to which the statistics relate. This identification has been done for a large part of what is now the United Provinces by Sir Henry Elliot (see Beames, *Memoirs of the Races of the North Western Provinces*, vol. II., pp. 82-146, and connected articles), and Sir Charles Elliot has notes on the same subject for part of the present district of Unao (see *Chronicles of Unao*) : so far as I know, it has still to be done for the rest of Northern and Central India.

(b) There is reason to think that this part of the *Ain* was not carefully edited, and there may have been great errors in the figures as originally compiled.

(c) Further errors may have been introduced in the transcription of the manuscripts, and while anyone who is not a Persian scholar must recognise the authority of the text published by the Asiatic Society of Bengal, it is possible that there is still room for study of the MSS. on this particular point. It is worth mentioning that the figures of this text differ in some cases from those of the translation published by the same Society.

(d) The exact significance of the figures is in some cases open to doubt. The account of the method by which the revenue was assessed is to my mind full of difficulties, and till it has been thoroughly worked out these doubts must remain.

Perhaps the best way of illustrating the interest of these figures will be to attempt a comparison of the state of cultivation in a limited area as it stands to-day and as it stood under Akbar. I have chosen for this purpose the area which is now comprised in the district of Fatehpur ; it is a comparatively simple case. In the following table the

areas are in *bigahs* : those relating to the earlier date are taken direct from the *Ain*, while the later ones are calculated from the normal cultivated areas used in the Department of Land Records and Agriculture, taking Akbar's *bigah* as five-eighths of an acre, and rounding to 100 *bigahs*. The *dam* is one fortieth of a rupee : Akbar's rupee was not very different in composition from that of to-day, but its purchasing power was very much greater.

CULTIVATED AREAS AND ASSESSMENT RATES

PRESENT DAY		AKBAR'S DAY			Present cultivation per 100 <i>bigahs</i> in Akbar's day
Pargana	Area <i>Bigahs</i>	Corresponding Pargana	Area <i>Bigahs</i>	Assessment <i>Dams</i> per <i>bigah</i>	
Fatehpur ...	107,100	Fatehpur Hanswah ...	55,918	52	192
Haswa ...	73,300	Hanswah. ...	42,521	50	172
Ghazipur ...	80,500	Eichhi. ...	35,826	45	225
Aya Sah ...	25,100	Ayasa. ...	15,784	53	159
Muttaur ...	52,800	Kunra. ...	11,782	59	448
Dhata 24,100 } Ekdala 109,700 }	133,800	Rari. ...	56,728	48	236
Hathgaon ...	113,700	Hatgaon. ...	55,323	49	205
Kotla ...	24,600	Kotla. ...	18,043	50	136
Bindki ...	46,000	Kiranpur Kinar. ...	17,965	46	256
Kutia-Gunir ...	42,500	{ Kutia 12,179 } { Guner 10,042 }	22,221	{ 48 } { 51 }	191
Kora 128,800 } Tappa Jar 59,200 }	188,000	Komarah (Kora)	124,749	54	151
Total District ...	887,400	...	459,594	...	193

This case is, as I have said, comparatively simple. In two instances parganas have been united, and one pargana has been split up : the names of some have changed, but the parganas remain. It is possible however that there have been minor variations in the boundary-lines of parganas since Sir Henry Elliot worked out the geography, and local records would have to be examined for these before the comparison could be taken as completed.

The case is simple in another way, for I have seen no reason to suspect any gross error in any of the older figures given : in many districts it will be necessary to leave one or

more parganas out of account because the figures for them are open to grave suspicion.

The table does not profess to make an exact comparison between the two periods such as is possible between two years under the present statistical regime. The older figures cannot be trusted sufficiently for that; and there is, I think, one definite source of error. I believe that Akbar's assessments were made separately at each season: if so, the areas in the *Ain* are what would now be called the gross cropped area: a field that has given two crops in a year would be counted twice. The present area on the other hand is the net cropped area, twice-cropped fields being counted once only: I use it because I have it at hand, while I should have to send to India for the gross figures. The result is to understate the increase in cropping which has occurred, but I do not think the understatement is likely to be very serious. Double-cropping is very largely, as old settlement reports show, a practice of the nineteenth century, and it is probable that the reduction to be made in Akbar's figures on this account would not be greater than somewhere between five and ten *per cent*. It has to be remembered, among other things, that maize, potatoes and tobacco—very common elements in double-cropping—were all unknown in India at this time.

At any rate it seems fairly safe to say that in Fatehpur cultivation has just about doubled since the time of Akbar, and that on the whole the increase is evenly distributed. The exceptions to this last statement are:

(a) Kunra, now Muttaur, where cultivation has more than quadrupled. This pargana lies along the Jumna, where there was extensive jungle, and the increase is probably true.

(b) Kotla, a fertile little pargana on the Ganges bank, which may have been fully occupied in Akbar's time.

(c) Kora, a large pargana, (now divided into two); Kora town was the headquarters of Akbar's *sarkar* (district)

of the same name, and doubtless the country about it was comparatively well populated.

Possibly, however, minor changes of boundaries such as have been referred to above may account for the special features in some of these parganas.

We have then reached one tentative conclusion as to the production of this part of the Empire; it would be possible to argue from it as to the numbers of the rural population and other economic features, but before doing this it is desirable to have similar data for a very much larger area, and consider them in the light of what is known from other sources. In the case of Fatehpur we must remember that the long, narrow district was traversed lengthwise by the Imperial high-road from Agra to Allahabad, and was bounded by the great waterways of the Ganges and the Jumna: it was probably therefore of relatively greater importance in Akbar's time than it is to-day, and we should not be surprised if we find that its development, measured by cultivation, was greater than had occurred in some districts more remote from the main circulation of the Empire.

It remains to say a few words regarding the figures which I have given in the table to show the revenue assessed *per bigah*. These are calculated directly from the figures in the *Ain*, and give just about the assessment rates which would be expected on the basis of the crop-rates given by the same authority. The revenue was calculated, as I understand, on the crops, and this rate ought therefore to indicate roughly the class of cropping which prevailed. It will be seen that the parganas were assessed at a very uniform rate, which it may be mentioned indicates a relatively low standard of cropping—still a noticeable feature of the district. The comparatively high rate for Kunra (Muttaur), taken with small the area under cultivation, suggests that the villages were clearings in the jungle, each with only a small area of the best land actually occupied, in fact that the pargana was a recent development.

I hope, however, that these assessment-rates will be found to serve another purpose, that of indicating figures which are clearly wrong. As I have said above, there may have been mistakes both in compilation and in transcription, and there is always the possibility that a particular figure is altogether wide of the truth. There may be a large mistake in the area, or in the revenue, of a particular pargana: if this has occurred, the rate calculated from those figures will differ widely from the rates of neighbouring parganas except in the single case when errors of *the same proportionate magnitude* have been made in both figures. Now the chance of this last occurrence is very small indeed, and it is probable that abnormal rates will indicate most of the large errors in the figures from which they are derived. To illustrate this argument, we may take that part of the Allahabad district which adjoins Fatehpur on the east. The figures for the parganas in this area stand as follows:—

PRESENT DAY		AKBAR'S DAY			Present cultivation per 100 bigahs in Akbar's day.
Pargana	Area Bigahs	Corresponding Pargana	Area. Bigahs	Assessment. Dams per bigah.	
Atharban ...	79,500	Atharban ...	18,518	48	429
Karari ...	103,100	Karari ...	39,687	4	? 259
Kara ...	138,200	Haveli Karrah ...	9,639	539	? 173
		Baldah Karrah ...	70,002	3	
		Total	79,641	68	
Chail ...	211,200	Ilahabas ba Haveli ...	284,057	33	? 74

Here it will be seen that the uniformity in assessment-rates found in Fatehpur is by no means apparent; they range from 3 to 539 *dams per bigah*, instead of from 45 to 59, and it is a curious fact that this small group of parganas should afford illustration of so many probable errors. Taking the parganas in order—

Atharban has a normal assessment-rate, and consequently its figures stand on the same footing as those of

Fatehpur district. The increase in cultivation is very great, as in the case of pargana Muttaur, which like Atharban lies along the Jumna; probably the early condition of the two parganas was similar.

Karari. The figures $\left\{ \frac{\text{Rev. } 141,953}{\text{Area } 39,687} \right\}$ give a rate of less than 4 *dams*, or one tenth of a rupee per *bigah*, which is much below the rate given in the *Ain* for the very poorest crop, and which may safely be said to be impossible. There is probably, therefore, a very large mistake in either the area or the revenue. The area is about what might be expected from the present figures and the position of the pargana, and I conjecture that one digit has dropped out in transcribing the revenue, the loss of a digit being a very common accident to Persian figures. This, however, is only conjecture, and it would not be wise to rely on the area for comparative purposes.

Kara. The two divisions of what is now pargana Kara give impossible rates; 539 *dams*, (over thirteen rupees a *bigah*) is as absurd as 3 *dams*. It is not unlikely that the entries of area and revenue have been transposed, and that the total for the two portions is approximately correct; the rate which this gives is high, but not impossibly high for the headquarters' pargana of a district, while the comparison with present conditions resembles what we found in Fatehpur.

Chail. This is the only case I have so far found where cultivation appears to be less than in Akbar's time. It may be true, or there may have been a change in boundary necessitating an adjustment with neighbouring parganas. The assessment-rate is not impossibly low, but it is suspiciously low. If it should be found that a respectable manuscript gives the area at 184,057 instead of 284,057, the rate would be 50, and the present cultivation would stand at 115—a reasonable figure considering that Prayag under Akbar was an important place, while large areas of cultivated

land have been included in municipal and cantonment areas under British rule. But this again is conjecture only.

I am at present engaged in examining the application of this test by assessment-rate to the whole area dealt with in the *Ain*, and it would be premature to claim any validity for the method. I have given this illustration mainly to show that the figures in the *Ain* cannot always be used precisely as they stand, and that anyone who wishes to use them will have to find some critical method of estimating their value, and of eliminating those which are clearly corrupt. Whatever method be adopted, the hope remains that though many figures may have to be rejected, enough will survive to give a fairly accurate idea of the economic conditions prevailing in some parts at least of the great Empire consolidated by Akbar.

A NOTE ON THE
ECONOMIC CONDITIONS
IN THE
SOUTHERN STATES OF AMERICA
AND COMPARISON WITH INDIA

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There are some students of Indian economics who believe that the Indian cultivator has a monopoly of poverty and the consequent train of ignorance, lack of education, economic subjection, disadvantage in bargaining, ill-health, high death-rate and all the other ills that go to make extreme poverty one of the worst evils that curse humanity. Investigation however proves that the unassisted small agriculturist, and especially the small tenant farmer, anywhere on earth has had, and is still having, a particularly hard and uninviting lot, that depression and hopelessness are the common attitude of mind of most of these folk, and it is only as these people have been taught to help themselves that conditions have been bettered. We have become so accustomed to regard the United States as a land of economic prosperity and plenty that it is hard for us to realize that it, too, has its problem of a large rural population, dispirited, dejected, in debt until they are little better than serfs. Further this population lives in that part of the United States that is especially favored by climate, rainfall, soil-fertility, staple crops and transportation facilities. It is the great south eastern and Gulf section

of the United States, that section that grows the cotton and the sugar.

Not the only cause, but one of the chief causes of this poverty is the one crop system. Cotton after cotton, year in and year out, has so reduced the responsiveness of the soil to this particular crop, that the returns are so poor and growing poorer every year, that unless some change takes place this section is threatened with a state of chronic bankruptcy. This is made still more acute by the fact that the crop is always mortgaged before the seed is sown. Advances are taken from the shop-keeper for seed, for food, for running expenses until the crop is marketed. The shop-keeper, whose risks are great, sells at extremely high prices, and in one of the most fertile areas of the earth most human food is imported, and has to pay heavy transportation charges. Both "poor white" and negro farmer are so heavily indebted that they are reduced to a state of hopeless, effortless, dejected helplessness that causes one to imagine that the very nerve of desire is cut or atrophied. Let me give illustrations:—"East of Brookhaven, Mississippi, lived a wretched farmer on poor pinery woodland that in 1905 sold for \$1.00 per acre (Rs. 3 per acre.) He was \$800.00 (equal to Rs.2,400) in debt to the village store-keepers. Very rarely had he corn and hay enough to last beyond March 1st. He did not believe his land was 'corn land.'" Again, "The average annual earnings of individuals engaged in agriculture in the State of Iowa (one of the middle western States) is upwards of \$1000.00 (equal to Rs. 3,000,) the average earnings of those similarly engaged in some of the Southern States is as low as \$150.00 (equal to Rs. 450). These meagre agricultural incomes are not supplemented by disproportionately large incomes from mines or manufactures. Eighty-five per cent of the southern population is rural in character. Trade did not therefore supply what the farm failed to produce. The great bulk of the people of the Southern States was simply not earning

enough to provide proper homes and to support good schools. Whatever the other deficiencies, the prime need was money."

I have spoken with teachers and social workers from the South, have seen a little with my own eyes, and I have not yet made up my mind whether, allowing for differences of custom and climate, which in the United States makes more shelter and clothing and fuel necessary, I would rather be an Indian ryot or a "poor white" or negro farmer in the Southern States of America. The latter in place of the mud hut lives in a broken-down wooden shack, unpainted, through the cracks of which the wind whistles and the rain beats. Instead of the chapati or handful of parched gram and the spices of Hindustan, the southern States farmer has corn mush and greasy pork for three hundred and sixty-five days in the year; many of them do not know how to cook anything else. Among such a community it goes without saying that the people have not enough money to build and maintain good schools and to properly pay the teachers. For example in the State of Alabama, white teachers were receiving average annual salaries of \$151.84 or Rs. 455, negro teachers \$95.53 or Rs.286. South Carolina \$195.28 and \$79.47 respectively. The average throughout the United States at this time was \$516, equal to Rs. 1,550. The Per Capita expenditure on school children ranged from \$3.38 or Rs.10 in North Carolina to \$7.43 or Rs.22 in Louisiana, while in the country at large it stood at \$15.08 or Rs. 45.

In the United States surveys have been made, publicity has been given to these appalling conditions. Many public spirited citizens have given of their time and thought and money, and a wondrous transformation is taking place before our very eyes that is nothing short of miraculous. Such men as Booker T. Washington have risen from the negro population. He was a very Moses in the steadfast way he has educated his people and led them out of the

ignorance and dependence and economic slavery into which they had fallen after Lincoln signed the emancipation proclamation and they were politically free, but knew not how to use their new, strange, precious gift. Booker Washington was born a slave under about as unfavourable circumstances as are imaginable. When he was growing up, he heard of Hampden Institute, a school established by private benevolent effort, the object of which was to train the negro to work with hand and eye and brain. It is one of the most successful schools on earth, well equipped, fulfilling in wondrous fashion its mission. It has been blessed with a succession of great teachers, who had the gift of inspiring their pupils. These teachers generally take up the work as a labor of love and for life. Now, had there been no Hampden, it is likely that Booker Washington would have lived and died unknown and of very little use to the world. But he had Hampden, and here he learned to think clearly. He had no illusions. He saw that when a man, either black or white, wanted a house built, he cared little for the colour of the builder. He was concerned with the quality of the work and the price at which it was done. Remembering the bitterness of the struggle in the Civil War, the freshness of the wounds in the South, there was no flaunting or nagging in his message. He advised his people, because they were negros, and therefore at that time handicapped by that fact, that any longing and crying about social equality and social respect was waste of breath. The way to these things was the hard, long way of education, of learning how to do any given piece of work as well or better than the white man, by his usefulness and trustworthiness to make himself indispensable to the public welfare, to forget about and cease to covet social equality, when there was not equality of economic and industrial attainment, and as the negro made himself a necessity to the community, bore his share of all its burdens, all these other things would gladly be

granted where they could in no wise be forced. He advised his people (to borrow that expressive Americanism) "to make good." The spirit of progress and usefulness began to supplant the easy and fatalistic laziness of the negro. A negro boy came to a leading American educator to be admitted to school. "Well my boy" he asked, "why do you want to go to school?" "Because I am tired of wearing a dollar hat on a ten cent head." That negro boy went to school.

One other great force at work for the regeneration of the South has been the General Education Board, financed largely through the very large gifts of Mr. John D. Rockefeller. This Board worked quietly for twelve years, then it published its first report, a document of two hundred and fifty four pages, which is a classic on the subject. It can be obtained by writing to the Secretary, General Education Board, 61, Broadway, New York City, U. S. A. I have drawn on it largely for this article. I feel that to quote freely will stimulate and suggest, to one familiar with Indian conditions, in a way that no words of mine can. So whatever is in quotation marks is taken directly from it.

The Report says:—

"It soon became clear that more favourable economic conditions must be attained before comprehensive school systems could be supported by taxation. The southern people were not educationally apathetic; on the contrary, popular education, unknown to the antebellum regime had come to be an object of ardent desire in the three decades that had passed between 1877 and 1900; significant steps had already been taken in many states, and generous private subscriptions were being added to public taxation. But adequate developments could not take place until the available resources of the people were greatly enlarged. School systems could not be given to them, and they were not prosperous enough to support them. Such was the situation reduced to its simplest terms."

"It was obvious that the General Education Board could render no substantial educational service to the South until the farmers of the South could provide themselves with larger incomes. The resources of the soil were ample or would become so under scientific cultivation; the climate was highly favorable to general rural prosperity. But the Southern farmer suffered from lack of scientific knowledge of agriculture, knowledge available, indeed, though never effectually distributed to the people. It was necessary to improve southern agriculture. How could this be done?"

"The Board was advised to address itself to the rising generation, that is, to support the teaching of agriculture in the common schools. After thoughtful consideration this plan was rejected. In the absence of trained teachers, the effort was impracticable; moreover, there were no funds with which to pay such teachers and the instruction itself would not materially contribute to its own support. Finally, it was impossible to force intelligent agricultural instruction upon schools whose patrons were not themselves alive to the deficiencies of their own agricultural methods. Until the public was convinced of the feasibility of superior and more productive methods, the public schools could not be reconstructed; once the public were convinced and by reason thereof better able to stand the increased cost, the schools would naturally and inevitably readjust themselves.

It was therefore deliberately decided to undertake the agricultural education not of the future farmer, but of the present farmer, on the theory, that, if he could be substantially helped, he would gladly support better schools in more and more liberal fashion. The Board, therefore, set about an extensive enquiry as to the best means of conveying to the average working farmer of the South, in his manhood, the most efficient known methods of intelligent farming."

Here we see the way the Board analysed its task and decided that education and in fact all other industrial,

little speech at a field meeting he testified that, 'as a farmer he was just one year old.' Now, in his third year, he has become local demonstration agent and is beginning to cherish 'legislative ambitions.' "

It is a demonstrator and not a demonstration farm that is wanted. At a demonstration farm good seed, proper tillage, drainage, irrigation, good cattle, and improved implements are all shown to those who are sufficiently interested to come to the farm to see them. But when the Indian cultivator, who sees these things working on the demonstration farm, is asked to go home and follow the example he has seen, he throws up his hands in despair. He declares it is beyond him. The new and altered conditions at the demonstration farm are regarded as all right for it, but not all right for the ryot and his land, and his conditions. Now, the demonstrator goes to the farmer in the farmer's natural environment, at his home, and in that environment persuades the cultivator to try the better method, better seed, better implements, better cattle. The cultivator himself does the work, often-times feeling sceptical and hoping the thing will fail. But if he can be persuaded to carry it through, and when, as a result, the cultivator has a larger net profit to show for his own labour aided by the advice of the demonstrator, his conversion to better farming is complete and permanent. The Indian cultivator is as wide-awake to his own interests, as he sees them, as any cultivator on earth.

I now quote some of the considerations that guided the General Education Board in its conduct. "The feasibility of extending the method of farm demonstration as an educational measure was considered—the cost of such extension, the probability of its ultimately supporting itself, the length of time which must probably elapse before any such result could be counted on. It was agreed that the work would permanently affect southern agricultural prosperity only if it became vitally rooted; that, therefore, an outside agency engaged in its promotion must regard its part as temporary

and experimental. Dr. Knapp was from the outset confident that experience would justify this view. He believed that if the demonstration work could once be started by outside funds in a state, a county or a community, it would promptly enlist local support; that it would spread from community to community and from state to state; and that in the end the teaching of agriculture and domestic arts would become an accepted feature of rural education."

"Too often extension involves mechanisation and consequent sterilization of educational methods; with an increase of numbers, either inferior persons are employed, or verbal explanation, addressed to masses, supplants concrete experiment or demonstration. In the present instance no deterioration has taken place. The instruction has remained concrete and individual: and the development on the social side has served only to inaugurate additional concrete or individual experiments. Four general field agents now keep the central authority in close touch with the work; they are on the look out for local difficulties; in addition, they appoint times and places for bringing together state and local agents for conference and instruction. Thus the main principles of the work are constantly kept prominently before those on whom, in the end, success depends. Each state is supervised by its own state agents, assisted by district agents in charge of from 15 to 25 local agents. The state and district agents make frequent excursions with the local representative, examining into the location of farms, assure themselves as to the quality of the local supervision, and communicate observations made in other sections of their territory. The local agent is absolutely responsible for the number and success of the experiments under way in his field; for the amount of enthusiasm generated; for the extent and variety of other activities, social and individual, following in its wake. The tests applied are throughout actual, and as long as this is the case extension involves no perils to the spirit and outcome of the movement."

At first the United States Government could not see its way clear to take up this work, but now it has done so, also the people themselves are helping and eager. The result of the demonstration farm has been in general to double the production of the land and with the money thus obtained the people are getting out of debt and are building, equipping and managing their own schools. I believe that this method applied to India will be no less fruitful of results.

Now in the work of the General Education Board is there any suggestion that will help India? I believe there is. It is striking that the General Education Board distinctly says it put aside the consideration of the coming generation as the one to help. It would rather influence the present generation, because the latter could best help the coming generation. It is the present generation that needs the help, that is bearing the burden, that is fighting the unequal fight, that is being beaten by great stress of economic forces. But how to help this present generation? These folk would not go to school, to college, would not attend lectures, they had nothing but contempt for "book farming" were firmly convinced that they knew it all, and that improvement was impossible, were suspicious and clannish. So if they were to be reached at all they must be reached where they lived and be there shown the better way; and after they had learned it, they saw its promise and possibilities. What could never have been forced upon them from outside in their old mental attitude and economic conditions, they now did for themselves or paid for it. Schools, roads, better tools and cattle, better systems of farming were now welcome. It was a moral victory as well as an economic triumph.

Now I maintain that this can be done in India. Reach the present generation of India where it lives, and it will solve all the other problems. I grant India is a bigger problem than the Southern States; therefore it is more

worth while trying and there is less excuse for delay. In India we have not the machinery to hand to turn out the demonstrators, but that can be made soon. What is needed is the right man or men to lead in this. Men who have in other countries been engaged in somewhat similar work to show us how to begin to do it. Further, at hand we have a helper in the cooperative movement. Every Cooperative Credit Society member is a man who, not so much by what he has done or possesses, but by his attitude of mind, is ready to receive help from a demonstrator. Thanks to the investigation of the Government agriculturists there is now a sufficient body of knowledge available regarding such crops as wheat, cotton, sugar-cane, and rice, with manuring and cultural methods for these, to double the output of any one of these crops, and to much more than double the profits. It is a larger crop and a much more than proportionate larger net profit that will result. But for this knowledge to be of use to India it must not only be in bulletins to be studied by experts, it must be demonstrated to the illiterate cultivator, who cannot read a book, but who can read a field and the crop that it grows. The present seed farms of Government could be adapted and staffs of teachers employed to train demonstrators. But the teachers and demonstrators must be first-class, adequately trained men. No cheap or inferior or impatient men, or those regarding this work as but a step to a comfortable routine in office and a pension after so much service. Men of high patriotism and lofty moral purpose are called for, who can sympathise and help without patronising, who are unselfish and in this service for all of life. These men should not have so much to do, that their work and lives are spread out too thin. It is intensive work. Let one demonstrator stay with one Cooperative society or group until the farmers are thoroughly trained and convinced and success cannot be denied. Then the work will spread itself. It is the intelligent, patiently-carried-out start that will count, and be copied by the people themselves.

The history of modern India is full of the records of the attempts at social and economic betterment by those men who love India, both Indian and foreign, who pray for her welfare, who long to bring about a new and better state of affairs for the great mass of Indians; and the records of their successes are distressingly small, and many cease striving to help, regarding it as hopeless and impossible. Why is it? I do not profess to be able to say. But until every method and plan has been tried and the possibilities exhausted have we a right to say the thing cannot be done? This demonstration agent going to the village farmer, and staying with him as long as is necessary is one way that gives me, as Sir James Meston recently said in one of his speeches, "A vision of a very different India from what we have now—of an India in which the whole country-side has been metamorphosed by agricultural skill and science; in which its rustic people are comfortable, in which the land is immune from the ravages of famine, in which the ground is producing three, four, five, six times what it produces now; and as a correlative to that I see a vision of great towns, busy with the hum of looms, and the purr of electric machinery, turning out the comforts and luxuries which a prosperous country-side will require. It is the future of a great and prosperous country striding forward to higher things."

This vision can and will be made actual as we, with unfaltering patience, with perseverance, with the best men, with all the light of scientific progress, with knowledge of men as well as of things, put our very best into a task that by its complexity, its difficulties, its very bigness, staggers those who know most about India and love both the land and its people. It is a challenge to the great-hearts, to the seers, to that faith-filled band who know no fear or failure, to whom all things are possible, who believe that God made a world and called it good, and meant His creation to enjoy it. May they rise to meet it!

INDIAN FACTORY LEGISLATION

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The Indian Factory Law naturally follows and, with allowances for special climatic and racial conditions, is based upon the English Law, because England is the home and origin of Factory Legislation. Consequently it is desirable to give a short summary of English Factory legislation before I proceed¹ to the review of what has been done in India in this direction.

Between the years 1770 and 1840 took place that great industrial revolution in England which changed the whole face of the country. It was characterised by two chief signs—the introduction of machinery and the concentration of labourers in places where power, at first water and afterwards coal, was available. From very early times the state of the cotton factories and the conditions under which the children employed therein lived and worked called forth severe criticism by public authorities, and as far back as 1784 the Lancashire Magistrates deputed some medical men to institute enquiries on the subject. The custom in those days was for the parish authorities to apprentice pauper children to the owners of cotton mills, and it was the neglect and in some cases cruelty with which these children were treated which led to the passing of the first Factory Act entitled *An Act for the preservation of the health and morals of apprentices*, 1802. This Act prohibit-

¹ The authorities on whom I have liberally drawn for this summary of English Factory Legislation are the Misses Hutchins and Harrison, *History of Factory Legislation*, Redgrave's *Factory Acts*, Cunningham's *Industrial Revolution* and Shadwell's *Industrial Efficiency*.

ed night work for apprentices, limited their hours to twelve a day, and provided for their proper clothing, housing and also education. There were also provisions applying to all factories where apprentices were employed to secure ventilation and periodical lime washing. With the introduction of steam power, which occurred about this time, mills began to be established in more populous places and most of the children employed were no longer parish apprentices. The question of regulating the conditions under which they were employed was raised by Robert Owen, the socialist and co-operator, who was himself a mill owner. He was the first to point out from experiments made by himself that shorter hours of work enhance the efficiency of labour owing to the increased strength, activity and improved spirit of individual workers so that it is possible that in any given case a reduction of hours may result in a greater and not a smaller output. He carried his principles into practice, but getting no support from his brother mill-owners approached the Government with a view to legislation. Sir Robert Peel then appointed a Committee of Enquiry which took evidence in London and whose report formed the basis of the Factory Act of 1819. This Act provided that no child under nine years of age should work in cotton mills at all, and that for children under sixteen the actual hours of work should be limited to twelve. Even to these provisions there was considerable opposition. "The arguments used are those that belong to the mercantilist order of ideas¹ and are based on the two-fold assumption that (a) the protection and preservation of industry on its commercial side should be the object of the state, and (b) that the proposed regulation would injure trade and drive it out of the country, eventually reducing not only the capitalists but also the workers to beggary. There are hardly any signs at this period of the argument used by the modern enlightened individualist Liberal that it is unfair to deprive the

¹ Hutchins and Harrison, *History of Factory Legislation*, p. 27.

worker of the right to work as long as he likes." In 1825 a short amending bill was passed reducing the hours on Saturday to nine, and in 1831 the hours for all persons under eighteen were limited to twelve. These early Factory Acts thus provided for some restriction of the hours of children and young people generally, but their enforcement was left to the local Justices or Honorary Magistrates; and in the absence of any special machinery for inspection the law appears to have been very generally disregarded. Systematic enquiries made in 1825 showed that in Manchester the usual working day extended to fourteen hours of which one and a half were allowed for meals. Even during these meal times the child piecers were detained three or four times a week to clean the machinery. In 1830-31 a fresh reform movement was started by Richard Oastler and Michael Sadler, and the latter introduced a Ten Hours Bill (for young persons and children) the result of which was the Commission of 1833. This commission made searching enquiries in the Factory districts and the Factory Act of 1833 which followed was based on their report. This Act was a very considerable advance on its predecessors. It was the first applying to all textile mills and it laid down that no young person (*i.e.* person under eighteen years of age) should work at night, that no child under nine should be employed at all and no child under thirteen should work more than nine hours in the day or forty eight in the week. Children were not to be allowed in the mill after the regular hours. But the most important provision of the Act was the appointment of special Inspectors who were given the right and duty of entering all factories where children were employed, of ordering machinery to be fenced, of directing the adoption of sanitary measures, and of seeing that the laws regarding the employment of children were properly observed.

Meanwhile the Ten Hours Movement started by Oastler had developed into an agitation which spread over the

factory districts, and was hotly taken up by the workers themselves. They wanted a restriction of hours for all classes of workers. They spoke of themselves as "in bonds bound to the tyrant power of machinery." "They had no choice" they said "but to follow the machine at whatever speed, whatever number of hours it might be driven, or to starve". They had hoped, as the work of adults and children was so inter-connected, that to separate them would mean much inconvenience and loss. The restriction of hours of children would mean shorter hours for all. But the Act of 1833 robbed them of that hope and they now openly demanded the restriction of hours for all alike to be enforced by limiting the time during which the engine could run. These demands were stoutly opposed by the economists of the day belonging as they did to the *laissez faire* school who regarded them as an unwarranted interference with the liberty of individuals. Not succeeding in carrying their point the operatives proceeded to agitate for a ten-hour day for women and young persons which it was thought must govern the hours of male adults, and the acute controversy of the years 1844-47 raged round the question whether the hours for women and young persons should be ten or twelve. Gradually public opinion came round to the side of the Ten Hours men, prominent among whom was Lord Ashley, subsequently Lord Shaftesbury, and in 1847 the notable Ten Hours Act was passed. Meanwhile important changes had been made in factory law by the Act of 1844. By it women were classed with young persons, and the working day including hours for meals was properly defined. Other improvements in the law and in its administration were added at the suggestion of the inspectors and as the result of their experience.

But further experience showed that it is almost impossible to enforce a legal period of employment unless the legal working day is made to coincide. It was still permissible to start work at 5.30 a.m. and close at 8.30 p.m.,

women, young persons and children being supposed to be employed by a system of shifts. By the Factory Act of 1850 the legal working day for women and young persons was fixed at 6 a.m. to 6 p.m. or 7 a.m. to 7 p.m. with one and a half hours for meals, work on Saturdays to stop at 2 p.m. These are the hours which are universally worked at the present day, except that the time for meals has been raised to two hours, and work on Saturday now stops at mid-day. But the hours laid down for women and young persons did not at that time govern the hours worked in the mills. After 6 p.m. children were kept on in assistance to the male adults, and the hours of the latter were not reduced as they had hoped. The agitation for a ten-hours day continued and a bill was again brought forward in 1853 to enact that the motive power of factories should cease from 5.30 in the evening till six o'clock the next morning. It was openly stated that the real object of this bill was to regulate the hours of work of adult men but, since the Manchester school of economists was still strong, the time, we are told, was not ripe for such proposals, and a bill was substituted extending the normal day to children. This had the desired effect and since work could not be carried on without the assistance of women, young persons and children, the mills had to close at 6 p.m.

I have discussed at considerable length the fight over the question of hours in England because a knowledge of the history of the question is essential to any attempt to advance Indian legislation in this direction. The morals to be drawn from it are, first, that it is impossible to enforce restrictions in hours of certain classes of workers unless they are absolutely limited by a normal working day; secondly, that the men would have insisted on direct legislation limiting their hours of work had this limitation not been obtainable by indirect means. I must pass much more quickly over the subsequent history of Factory Legislation in England, but before doing so propose to make a few

remarks on the effect of the shorter hours worked from 1853 onwards on the outturn of the factories.

The "Manchester School" had taken it as self-evident that the output must be reduced in proportion to the reduction in hours. Evidence, however, gradually accumulated that the production of ten hours might be equal to that of twelve, and men began to see that the long hours customary in some other trades, far from being productive, positively tended to irregularity of trade, periodical slackness alternating with seasons of excessive hurry and work, an amount of labour being put into a few months that might with better organisation have occupied a year. Accordingly successive proposals to extend to other trades the benefit of factory regulations which had hitherto been applied only to textile mills began to be received with general favour.

First in 1860 bleaching and dyeing works, and in 1861 lace works, were included among the regulated factories; and in 1861 a commission on children's employment in unregulated trades was appointed. The result was the Factory Act of 1867 which brought a large number of new industries under control—blast-furnaces, paper, glass and tobacco factories, printing presses and finally, "all places in which fifty or more persons are employed in any manufacturing process." The Workshops Act passed in the same year regulated all other establishments in which persons were employed in a manufacturing process. "These Acts" says Mr. Redgrave "embracing within their far extending definitions nearly every trade and occupation in the country were necessarily incomplete and experimental. Exceptions and modifications were authorized which might possibly be requisite, rather than upon proof that they were indispensable, so that by the time the last of these several Acts had received the Royal assent there was a perfect chaos of regulations—all good in themselves when enacted, all having a direct purpose, which however most of the trades have outlived, and which required constant care and consideration

to prevent an application of them which would have imperilled that impartiality and that uniformity of administration which are absolutely essential to secure harmonious and cheerful co-operation."

It was assigned to a Royal Commission, in the latter part of the year 1875, to take all these statutes under review, to consider their various enactments, modifications and exceptions, to take such evidence as might be thought requisite, and then to submit a proposition for bringing into harmony the incongruous mass of provisions which encumbered the statute book. The commissioners set to work with the utmost zeal and took evidence upon all the points committed to them, both in London and in various manufacturing localities in England, Scotland and Ireland. In February 1876 their report with a volume of evidence, was laid before Parliament. On the information so collected the Act of 1878, the first complete Factories Act, was framed. Soon however again further enactments of greater or less importance were found necessary and the result was the consolidating Act of 1901, which is a complete code of the law relating to factories and workshops.

I turn now to the real subject of my paper, the course of Factory Legislation in India.

It was not till the seventies that the question of factory conditions in India began to attract attention. In the year 1875 on the motion of Lord Shaftesbury who was the chief promoter of factory legislation in England a debate on conditions in Indian factories took place in the House of Lords and it seems to have been in consequence of this debate that the first Factory Commission¹ was appointed in Bombay in the same year. The Collector of Bombay presided and the other members, except for one medical man, were drawn from the commercial community. The Com-

¹ Report of the Commissioners appointed by the Governor of Bombay in Council to enquire into the condition of the operatives in the Bombay Factories of the necessity or otherwise for the passing of a Factory Act. Government Central Press, Bombay, 1875.

mission, except for the official and medical members, did not think legislation required ; but if it were decided to legislate then they were of opinion that the Act should apply to the whole of India, not to Bombay alone, and that the following points should be noted in it :—

- 1st. That the machinery should be protected.
- 2nd. That children should not be employed under eight years of age.
- 3rd. That children from eight to fourteen years should not work more than eight hours daily.
- 4th. That the hours of labour for all should not exceed twelve hours a day, which should include one hour of rest, which could be given either at one time, or at different times during the day, as found to be most convenient.
- 5th. That all factories should be closed one day in seven, the day of closing being left to be fixed as the owners and operatives may wish. Other holidays in the year may be given at the option of the owners and operatives.
- 6th. That good drinking water should be provided in every factory.

On receipt of the report of this Commission further enquiry was made from all Local Governments in order to ascertain whether the precautions recommended for Bombay were necessary elsewhere. As a result Government came to the conclusion that though conditions as a rule were satisfactory there was room for abuses particularly with regard to the neglect of fencing of machinery and the employment of children and Government apprehended that such abuses would be likely to increase with increased competition. It was therefore decided to frame a simple and cautious uniform law not at once extending to the whole of India but applicable to any part of it when needed. On the 7th November 1879¹ the bill was introduced into the Legislative Council of the day.

¹ Supplement to Gazette of India, 1879, pages 1285 and 1382.

After a short discussion the Bill was referred to a select committee but there was considerable delay and it was not till April 9th 1881¹ that their report was taken into consideration by the council. The bill which when drafted² was of a permissive character was now made applicable to the whole of India and in view of the opposition of the Lieutenant Governor of Bengal and the non-official members of council some of its provisions were modified in the direction of leniency towards the manufacturer. As ultimately passed³ it was confined to establishments where mechanical power was used employing at least one hundred persons. It dealt only with fencing of machinery and the regulation of children's work. It prohibited altogether the employment of children under seven and limited the hours of children under twelve years to nine in the day during which there was to be an interval or intervals amounting to at least one hour while children were entitled to four holidays in the month. Registers of children were to be maintained to facilitate control, and lastly Local Governments were empowered to appoint special Inspectors to carry out the purposes of the Act. It is interesting to notice that in this earliest Factory Act the English ideas of the day were followed and scrupulous care was taken to avoid any interference with the work of adult men and even women. For these classes no limit of work was laid down and even the provision for a weekly holiday did not apply to them. In spite of the very lenient character of the bill and the full account of its origin which had been given, one honourable member suggested that the restrictions contained in it had their origin in Manchester, whose manufacturers feared the competition of Bombay, and received the usual reply from the Viceroy that pressure from English manufacturers had nothing to say to the bill and that the question had been regarded from a purely Indian standpoint. At every step of factory

¹ Supplement to Gazette of India, 1881, page 385.

² Gazette of India, Part V, 1880, page 127.

Gazette of India, Part IV, 1881, page 199.

legislation in India it has been open to its opponents to adopt the attitude that the change in the law was dictated by British manufacturers ; but so far as my researches have led me no evidence of anything of the kind has been found.

It was not long before in Bombay at least the Act was found to be defective. In 1884 at the request of the Bombay Government a factory Inspector from England, Mr. Meade King, was deputed by the Secretary of State to report on its working and this gentleman's proposals were in the same year referred to a commission¹ consisting, as before, of the Collector of Bombay, a medical practitioner and representatives of the commerce and industry of the city. This commission made very liberal proposals for reform. Their chief recommendations were as follows :—

- (1). *Children.* To raise the half time age from seven to nine and the full time age from twelve to fourteen and in order to prevent children being worked the full day to allow them to be employed only between 7.0 a. m. and 5.0 p. m. with fixed intervals for meals amounting to an hour.
- (2). *Women.* To extend the Act to women and allow them to work only from 6.0 a. m. to 6.0 p. m. with fixed intervals for meals amounting to an hour the same as for the children.
- (3). The addition to the Act of provisions to secure proper sanitation and ventilation.

An interesting portion of this Commission's report is that which deals with the weekly day of rest. This was in the first Factories Act made compulsory in the case of children only and did not apply to the factories as a whole. The Commission point out that in Bombay there are usually only fifteen holidays in the year whereas in England there are ten holidays and 52 Sundays besides 52 Saturday half holidays and in Calcutta as also in railway workshops all over

¹ Report of the Commission appointed to consider the working of Factories in the Bombay Presidency. Government Central Press, Bombay, 1885.

India a regular Sunday holiday is given. It may be remarked in passing that the reason for the difference between Bombay and Calcutta in this matter is to be found in the fact of the close connection of the jute industry of the latter city with that of Dundee. The Scotchman even when transported over seas insisted that Sunday should be a day of rest. Two members of the Commission were of the opinion that it should be laid down for all classes of workers. They pointed out that even if the holiday were provided for women it was by no means certain that the factory would have to cease work on Sunday since in India adult males formed 75 *per cent* of the whole body of workers whereas in England the proportion was only 26 *per cent*. And the Bombay operatives in a body had petitioned for the change. But the majority of the commission shrank from abandoning the main principles of the English Factory Acts that only women and children require protection and refused to countenance any legislative interference whatever with the work of adult males.

This Commission did good service in calling attention to the conditions prevailing in certain small industries. Cotton ginning and pressing factories, since they employed less than one hundred hands, at present did not come under the Act. Most of the workers were women and children. Frequently the hours of work were 4 a. m. to 10 p. m. with pauses only for meals, and in occasional cases of extreme pressure of work the same set of hands worked all through the night. Other small industries requiring control were said to be factories for wool and cotton cleaning, which worked under the most insanitary conditions, ventilation being totally absent. It was therefore proposed that all factories worked by power, not only those employing one hundred hands, should be brought under the Act.

After this commission had reported, correspondence went on between the Indian and Home Governments, and the question again came before Parliament. During the interval

too took place the Berlin International Labour Congress at which it was endeavoured to formulate principles of factory legislation for universal application, and it was more than once suggested that it would be expedient to apply the English Factory Acts as a whole to India. The Government of India, however, successfully contested this view. In 1889 they wrote "It is a well attested fact that the employees in Indian factories reach a standard of comfort and content which is not attained by persons in their own rank of life who are engaged in pursuits of a different nature. Machinery moreover is, owing to the comparative absence of competition, driven in the factories in India at a pace so slow that it would not be tolerated in England; and it is estimated that in many of the mills in India about twice as many operatives are employed as would be employed in mills of the same capacity in England. It follows that the work of the operatives in an Indian factory is far more desultory and less exhausting than that of an operative working in England, and that provisions which are rendered necessary by the exacting nature of the labour in English mills are not demanded in the interest of the Indian operatives, who would indeed be prejudicially affected by them." The Government, however, continued to make enquiries as to the particulars in which the existing law was defective and as to the restrictions which could fairly be introduced without unnecessary interference with the development of manufacturing industries; and on 31st January 1890 a bill¹ was introduced whose chief proposals were as follows:—

- (1) to extend the operations of the Act to factories employing at least twenty persons;
- (2) to raise the minimum age of children to nine years;
- (3) to limit hours of women to eleven;
- (4) to secure proper intervals of rest in the day and four holidays in the month to women;

¹ Gazette of India, Part V, 1890, page 5. Discussion art VI, 1890, page 10

- (5) to make provision for water supply, sanitation and ventilation.

But the Bombay workers were not satisfied with these proposals, and a memorial signed by 17,000 of them was presented to the Viceroy by the Bombay Member of the Legislative Council. Being unacquainted with political economy they prayed for a statutory weekly day of rest for all: the day usually to be a Sunday, but, if a native holiday intervened then the next Sunday to be a working day. They also asked for a regular mid-day rest say, 12.0 to 12.30 p. m., to apply to all workers. Since these suggestions struck at the root of the principle of the Bill that there should be no legislative interference with the liberty of male operatives to make such arrangements as they chose with their employers, further enquiry was felt to be necessary and a new Factory Commission¹ with Dr. Lethbridge as President and three Indian gentlemen as members was appointed with definite instructions to enquire into the views of the operatives in the mills of Bombay, Bengal, and the North West Provinces, on certain questions and to report on the same. The chief questions referred were:—

- (1) The limitation of women's work to eleven hours.
- (2) Should the hours of children, at present nine, be further limited?
- (3) Should there be a protected young persons class (as in England) intermediate between adults and children?
- (4) Should weekly holidays and a compulsory stoppage at a fixed time every day be provided for male adults as well as for women and children?
- (5) Do the male operatives desire a general working day to be fixed by law, and, if they do not desire it, do the conditions under which they work demand that it should be adopted?

¹ Report of the Indian Factory Commission appointed in Sept. 1890 under the orders of H. E. the Governor General in Council. Calcutta, Supdt. of Govt. Printing, India, 1890.

The commission made a very careful enquiry and submitted a most useful report. Their replies to the questions were as follows :—

- (1) Hours of women should be limited to eleven.
- (2) The hours of children to seven.
- (3) Age of children for half time be nine and for full time fourteen.
- (4) The weekly holiday and compulsory mid-day stoppage of work for half an hour should be provided for all classes of workers.

As regards the restriction of hours of work for male adults the commission found that the operatives were content that the existing working day from day-light to dusk should be continued and they further record that "there is nothing in the conditions under which Indian operatives work which calls for any legislative restrictions on the adult male. Nor can we conceive any conditions which can ever call for State interference in the matter. The operatives of India are not at present too ignorant to appreciate the full significance of this step which threatens to deprive them of what has always been considered the inalienable right of every man to do what he may please with his time, and which has hitherto left him to be the best judge of what is necessary for his health and requirements. If the Indian operative is too ignorant to appreciate the great issues involved in this question, his English fellow-workman is not. The mill-hands who work in similar textile manufactures in England have declared in a very emphatic manner that they will have no interference in the hours they choose to work, and rather than submit to any restrictions on this subject will sever their connection with the other labour unions which are now advocating the eight hours' movement. Taking all these reasons into consideration, the Government would not, in our opinion, be justified in legislating in this matter."

The Commissioners here seem to have been under some misapprehension as to events in England. The Factory Acts Reform Association, which was the creation of the operatives, wanted shorter hours for all hands and scouted the idea of the Liberals that legislative interference with adult male labour was an economic error. The men aimed, as has been already shown, at the shortening of their own hours by limiting those of young persons and women.

However the question of the restriction of adult male labour in India was laid to rest for the time being. The proposals of the Commissioners of 1890 were accepted almost in their entirety by the Select Committee and very few further changes were made. The Bombay Government wished in accordance with the report of the local commission to bring all factories employing twenty or more persons under the Act, but owing to opposition from Bengal, the minimum was fixed at fifty, the local Government being given the power to apply the Act to factories where at least twenty persons were employed. This Act applied the further and much needed restrictions advocated by the Commission in the employment of women and children, and authorised rules to be made for sanitation and ventilation and the prevention of overcrowding. It also departed definitely from the principle of the English Acts in providing for *all* operatives the weekly holiday and half hour mid-day stoppage. It came before the Legislative Council on March 28th, 1891,¹ and met on the whole with a very favourable reception. From the speeches delivered on the occasion it is evident that there was a feeling of relief when the Act was introduced in Council in its final form. It was based on the reports of two Factory Commissions; and repeated searching enquiries had been made from all who were or might be concerned as to the effect of the recommendations made by these commissions. Yet in the words of Mr. Mackay (now Lord Inchcape) the spokesman of the industrial

¹ Gazette of India, Part VI, 1891, page 86.

community "There has been a sense of insecurity caused by a feeling that there was a risk of the interests of India being sacrificed on the altar of English party politics, and that a measure might be forced on the Government of India which would be distinctly disadvantageous to the interests of the people of this country. But" he continued "I consider the Government of India have fought our battle with valour and at the same time with discretion, and, while by the measure before us they have provided in every respect sufficiently for the protection of the worker, they have declined to hamper or trammel with restrictions unsuited to this country the infant industries of India, and I am therefore prepared to support the Bill." The only sections which excited criticism were those preventing women working at night (except where the shift system was in force) and providing intervals amounting altogether to one and a half hours in the woman's working day. Curiously enough both these reforms were in accordance with the principles adopted by the Berlin Conference and they were thought by some to be unnecessary; but since the Government could show that they had been accepted by both Bombay and Calcutta as causing little inconvenience in the existing system of work in factories there was little difficulty in getting them passed. The Viceroy in summing up the debate remarked "We believe that the effect of our measure will be to place factory labour in India on a proper footing and that our Bill will be accepted here and at home, not as a mere prelude to still further restrictions, but as a settlement as final as any settlement of such a question can be."

These anticipations have certainly been realised. The Act provided adequate protection for the factory population while interfering with the existing system as little as possible, and it is probable that it would have still remained on the statute book had it not been for one circumstance, which it is hardly too much to say revolutionised the conditions of the industry in Bombay and the Northern Pro-

vinces. That circumstance was the introduction of the electric light, enabling very long hours to be worked.

Formerly the day-light day, short in winter, long in summer, was the rule and the workers were protected from any excessive strain not only by their statutory weekly holiday and mid-day interval but by the prevailing custom of frequent absences outside the mill for water drinking and loitering. The Government knowing well that work was not being carried on at high pressure had no desire to interfere. But in the years 1905-6 came a period of great prosperity to the mill industry. Cotton manufacturers were making large profits and aided by the electric light began working the operatives for very long hours with only the prescribed interval of rest. In some mills the hours worked actually exceeded fifteen per day. Some articles in the *Times of India* first called public attention to the matter. The Mill Owners Association of Bombay met and passed a resolution to restrict the day to twelve hours, but it was not adhered to. Ultimately the Government took action and appointed an experienced Factory Inspector to tour the country in company with two medical men, and to investigate the conditions prevailing. The report of this Committee¹ issued in 1907 strongly confirmed the existence of the abuses which were alleged, and concluded with the recommendation that hours worked in factories not on the shift system should in future be restricted to twelve. The Government of India had, however, given a pledge that no such action should be taken until a representative commission had examined carefully into the whole subject. A Commission was accordingly appointed in 1907 and their report² was submitted to Government in 1908. The Commission found that exces-

¹ Report of the Textile Factories Labour Committee appointed by the Government of India on the recommendation of the Secretary of State for India on the 7th Dec., 1906, to enquire into the conditions of Factory labour in India. Government Central Press, Bombay, 1907.

² Report of the Indian Factory Labour Commission, 1908. Government Monotype Press, Simla, 1908

sive hours were habitually worked in cotton mills in western and northern India, and in the weaving departments of jute mills in Bengal. "Such a state of affairs," said the Commission, "must inevitably lead to the deterioration of the workers. It must also render factory work so unpopular that the labour supply necessary to the adequate development of the industrial resources of the country will not be forthcoming and the abuse is of so grave a character and so opposed to all humanitarian considerations, and so fraught with serious consequences both to the industrial population and to Indian industry generally, that the Government would in our opinion be justified in taking any steps which experience might show to be necessary in order to prevent it from continuing or recurring." The Commission however also found among mill owners a very strong feeling against any interference with the hours of full grown men. Such interference was said to be unnecessary and uncalled for and an unjustifiable restriction of the right of the adult male to work as long as he likes. So a belated attempt was made to follow the old principle of the English Acts which as I have shown had been definitely abandoned when the weekly holiday and mid-day interval were provided for all classes of workers. In deference to this opinion the commission proposed the creation of a class of 'young persons' between the ages of fourteen and seventeen as in the English Act. They thought that by limiting the hours of this class to twelve the object in view would be indirectly attained, and an automatic twelve hours day be brought about. When the matter came to be further examined it was soon made clear that the proposed restriction would not have the desired result; and the Government determined to proceed by the direct method and to say definitely that no one should work more than twelve hours a day in any textile mill or factory. The bill bringing this proposal into effect was introduced¹ into the Council in July 1909.

¹ Gazette of India, Part VI, 1909, page 141

It was opposed more as a matter of principle than anything else by the industrial community, both European and Indian, and when it was referred to a Select Committee in January 1911 the voices of Calcutta and Bombay and the Central Provinces were raised against it. The critics were hardly up to date in their reading of Political Economy. For the *Laissez Faire* School was by this time discredited, and the late Professor Jevons in his work "The State in Relation to Labour" published as early as 1882 wrote "No one would propose to interfere with the workman labouring in his own private shop or dwelling. There the adult can work as he likes, but where a large number of men are employed in a factory there is not the same individual liberty. All must conform to the utterances of the majority or the will of the employers or the customs of the trade. I see nothing therefore to forbid the State from interfering in the matter if it could be clearly shown that the existing customs are injurious to health and that there is no other probable remedy. Neither principle, experience nor precedent in other cases of legislation prevents us from contemplating the idea of State interference in such matters." Another proposal made at the same time was to allow the alternative of daylight hours but this also was negatived, since it would render possible very long hours in the long hot weather days, especially in the Upper India mills where the summer days are longer and winter days shorter than in Madras and Bombay. In select committee the commercial representatives continued to oppose the direct limitation of the hours of adult males and in March 1911, when the bill came up for final consideration, they maintained the same view. One member from the Central Provinces spoke of the restriction as a revolutionary and dangerous piece of legislation which had failed in all countries where it had been tried, would strangle an infant industry and seriously handicap India in its competition with England and China. Other representatives of the commercial community how-

ever approved of the restriction to twelve hours, but still wished to bring it about by indirect means. The Government naturally still preferred the direct method and the provision that no person shall be employed in a textile factory for more than twelve hours in any one day became law. The provision was not extended to other factories because no necessity was shown since the hours of work of individuals were always strictly moderate. It is hardly necessary to say that the restriction to twelve hours has not adversely affected the growth of industry and it is exceedingly probable, though I have no figures to show it, that, since the greater portion of the work is piece-work and men with shorter hours will work more regularly, the production with twelve hours is as much as it was formerly with fourteen or fifteen. Even now the hours are in my judgment too long for sustained and steady labour. The hands still take frequent spells of rest when the machinery is running and experience in other countries tends to show that finality has not yet been reached and that the workers are capable of adapting themselves to considerably shorter hours by closer application to work.

The Act of 1911 was the result of the very thorough local investigations made by the Factory Commission, and of subsequent enquiries made by Government, and its provisions were closely discussed in Select Committee. Every effort was taken to make the Act complete, and with its accompanying schedules and the rules made under it which were issued when it came into force on 1st July 1912, it comprises a complete compendium of the factory law of the land.

It is divided into nine chapters and I propose very briefly to discuss the principal provisions under each head.

In the preliminary chapter, which is mostly taken up by definitions, that of a factory is important. A *factory* is shortly any place where power is used and where fifty or more persons are employed; and the definition can be ex-

tended by the Local Government to any place where power is used and where twenty or more persons are employed. The former act exempted 'seasonal' factories which work for less than four months on the whole in any year. These words applied chiefly to cotton ginning factories. They were interpreted differently in different provinces, and indeed in different districts; and it was impossible to tell at the beginning of the year whether any cotton ginning mill was a factory under the Act or not. The Commission found it necessary to bring all such places under control, and now they all come under the Act.

The third chapter contains provisions for health and safety, and follows generally the recommendations of the Commission. Sanitation, ventilation, lighting, latrine accommodation, water supply, safeguards against fire; all these are to be provided to the satisfaction of the Inspector, who is given considerable powers under the Act and Rules to enforce compliance with his directions.

Chapter IV deals with hours of employment and holidays. The half-hour's stoppage after six hours of work and the weekly holiday are laid down as a general rule as in the previous Act; but since in every factory there are various classes of work such as clerical work, cleaning, oiling and repairing, packing and baling, which are usually carried on when the main manufacturing process is discontinued, and there are also classes of factories such as sugar, paper, and glass mills where production must be continuous, liberal exemptions are allowed and the principles definitely laid down on which further exemptions of the same nature can be given. This chapter deals also with the hours of work of the protected classes. No change has been made in these. The hours of children are (in non-textile factories) seven hours as before and of women eleven hours. But the provisions for securing due observance of the law have been tightened up. Specified hours have now to be fixed and recorded for the employment of each

woman and child and they must be between 5.30 a.m. and 7.0 p.m. No child can be employed at all unless he has a certificate both of age and of physical fitness, and to make supervision easier he has to have on his person while at work a token giving reference to the certificate. As regards women it was decided in accordance with the Commission's report that an exception should be made with regard to ginning factories, and that permission be given to employ women on gins at night provided that so many extra women are employed as to reduce the average hours of each to eleven.

Chapter V deals with the special limitations of hours in textile factories. The distinction between textile and other factories is new in Indian legislation, but is in accordance with English law. The reason is that factories for spinning and weaving fabrics such as wool, cotton, silk, linen and jute, employ large numbers of hands, especially women and children; the labour is often hard, and the attention and strain of waiting on the moving power is continuous. These industries appear also, more than others, to be subject to periodical depressions and to subsequent booms in which there is great temptation to over-work the hands. It is also only in textile factories, as far at any rate as India is concerned, that any abuses have occurred. Accordingly it is only in these that the hours of adult males have been limited to twelve, and in order to help in securing observance of this provision the range of hours during which work is to be allowed is restricted to thirteen and a half hours. If the half-hour interval had been universal the range of hours might have been twelve and a half instead of thirteen and a half; but since some mills in Upper India, such as the Cawnpore Woollen Mills, gave one and a half hours interval and wished to continue the practice it was necessary to lengthen the range to thirteen and a half hours. What these hours are in any particular locality varies with the time of year and with the standard of time observed therein. In Bombay and Upper India standard time, *i.e.* that

of Madras, is observed, but this has not yet been accepted by Calcutta and confusion is liable to arise. The actual times therefore within which the twelve hours day must be taken have to be fixed by notification. For these Provinces they are as follows;

May to August 5.30 a.m. to 7.0 p.m.

March, April, September and October 6.0 a.m. to 7.30 p.m.

November to February 6.30 a.m. to 8.0 p.m.

The starting time all the year round agrees roughly with sunrise and in the cold weather the full twelve hours is made up by working in the evening with electric light. It is further laid down that in a textile factory the machinery may not run for more than twelve hours unless a definite system of shifts approved by the Inspector is in force. Such a system is universal in the Calcutta jute mills. There an elaborate scheme is worked by which all the hands are divided into three or four shifts each of which has generally two spells of work during the course of the day with a three hours interval between. Under this plan, although the factory may work for fifteen hours, each individual adult does only nine to eleven hours work. As regards children in textile factories their hours have been reduced to six in order to fit in with the twelve-hour day. The children are divided into two shifts of which, as a rule, one works before the interval and one after it. It should be remarked that from the special restrictions of textile factories are excluded bleaching and dying works, cotton ginning mills, cotton and jute presses, and parts of textile factories where baling and packing is done; because, though they have to do with textiles, the work done therein more resembles that of other factories where no such restrictions prevail.

The other chapters of the Act, though of considerable importance for the proper carrying out of the law, are of no great interest in themselves, and it remains for me only in conclusion to say a few words on the important subject of inspection.

The first Factory Act (1881) provided for the appointment of Inspectors, and for the powers of entering and examining factories. These could be either special Inspectors of factories, as in England; or the District Magistrate might be nominated in virtue of his office. The Bombay Government at once appointed a special Inspector, whose reports were of great value when the Act came to be amended; but the Bengal Government of the day, not convinced of any abuses in their own province, and dreading interference with growing industries, relied on their district officers to keep things straight. In course of time two more Inspectors were appointed in Bombay, and one for Bengal and the United Provinces combined. In Madras and the Central Provinces the Inspector of Factories was also Inspector of Boilers while in the Punjab and Burma the duties of factory inspection were combined with those of other officials. Thus when the Commission of 1908 made their investigations there were in the whole of India only three full time Inspectors of whom two were in Bombay, and two other Special Inspectors who were also Inspectors of Boilers. The District Magistrate was in the United Provinces, and I presume in other provinces too, bound to visit every factory once in six months; and the Civil Surgeon also had to make half yearly inspections to look into sanitation and children's work. But these more or less amateur visitations were of very little use in securing observance of the law, and it was not surprising under the circumstances that evasion was common. The Commission found that the statutory half hour stoppage was not allowed in the Calcutta mills for those hands who did not work on the shift system and that the operatives were frequently called in on Sundays to clean the machinery. But the worst infractions of the law were in the case of children. Boys though called half-timers were generally employed full time in the Upper India and Bengal mills. Of all the half-timers ten to seventeen *per cent* in cotton mills, and 30 to 40

per cent in jute mills, were found to be under the age of nine while a number of those recorded as full-timers were really under fourteen. Except in Bombay children were not certified prior to employment. The law has, in the manner already pointed out, now been made more effective in several respects, but in order to enforce it fully it was obvious that a very considerable reform in the matter of inspection was necessary. It was decided accordingly to add largely to the professional inspecting staff, and at the same time to abolish the periodical visits of District Magistrates and Civil Surgeons. The new scale of inspections which was sanctioned by the Secretary of State in 1912 provided for Bombay a Chief Inspector and four Inspectors, for Bengal, and Assam, a Chief Inspector and two Inspectors; and one Inspector each in Burma, Madras, the United Provinces, Punjab, and the Central Provinces. In the three last-named provinces he continues to do the work of boiler inspection. District Magistrates are still Inspectors under the Act, but their duties are chiefly confined to seeing that defects brought to their notice by the Special Inspectors are remedied with as little delay as possible. It may be said on the whole that the Act has worked with a minimum of friction and that its provisions are now in general carefully observed; and from the reports of the last two years which I have recently perused I find that few defects have been brought to notice and that prosecutions have been rare.

Before I finish I wish to say a few words on the education of children in factories. We have seen that the very first English Act in 1802 laid on the millowner the responsibility not only for the proper treatment of apprentices but for their education. The Act of 1833 laid it down that children working in factories were to attend school; but there were two difficulties in the way. The first was that till half-time was introduced the hours could not be got to fit in with the ordinary school hours. The second obstacle was the scarcity of schools, for removing which no provision

was made in the Act, and consequently in many cases the educational provisions could not be enforced. Then came the Elementary Education Acts of 1870 and 1876 and when the first consolidating Factories Act was passed in 1878 it imposed on the parent the duty of seeing that the child attends school, and on the employer the duty of paying to the manager of the school for each scholar's education a sum not exceeding 3*d* weekly or one twelfth of the child's wages. Also a certificate of school attendance for the previous week had to be produced by each child when he went to the factory on Monday. These provisions have been repeated in the Act of 1901, for, though education was made compulsory in 1880 in England, it has not yet been found possible to make it wholly free because of the religious difficulties in the way. Some parents insist on sending their children to denominational schools, and the general public objects to pay for denominational education. Hence in 1902 we find that 633,000 children in primary schools paid fees. I may remark in passing that a similar difficulty will have to be overcome before education in India can be both free and universal. The English Education Act of 1880 also forbade the employer to take a child as a half-timer at all until he had obtained a certificate of having reached a certain standard of education.

In India, from the first institution of factories, it has been a frequent custom for the management to provide free schooling on philanthropic grounds, but since these were under no kind of supervision they were exceedingly inefficient. The Bombay Factory Commission of 1884 recommended, on the analogy of the English Acts, that children should be allowed to work one year earlier and to pass on to full time one year earlier if they had passed a certain standard. The Commission of 1890 expressed a hope that now the half-time system was to be properly enforced Local Governments would in co-operation with the employers devise some means of educating the children. No result however came

from this suggestion. The Commission of 1908 did not consider that factory owners should be compelled to provide elementary education for the children employed by them, and recommended that special schools for factory children should be opened by the local authorities at suitable centres close to the factories, the course of instruction being repeated twice each day for the benefit of the morning and afternoon sets of half-timers. But as the new Factories Act made no definite provision, the late Mr. Gokhale moved an amendment making the employers responsible for maintaining an elementary school in which three hours instruction daily should be given free to all children employed. His proposal was that the cost of the schools should be divided between the factory owners, the local body concerned and the Government ; but the initial responsibility for maintaining the schools should rest on the factory owner. The proposal received some support and also aroused some opposition among the non-official members, and was negatived by the Government on two grounds; first that it is unfair to select one body of employers and make them responsible for providing education, and secondly that schools on the premises may lead to children being employed longer than the legal hours in the factory itself. Personally, I am of opinion that the circumstances under which large numbers of factory children employed-only for half the day are growing up generally without any instruction at all are peculiar, and that the question should be taken up on its own merits without reference to that of compulsory education in general, also that there is nothing unfair in laying on employers who benefit from children's labour part of the cost of their education. This, as I have shown, was done in England. I am therefore of opinion that the question should be faced ; and that, whether the schools are to be inside or outside the factories, education for all children employed should be made free and compulsory, partly at the expense of factory owners. This was also the recommendation of the majority

of a committee which recently sat in Bombay to consider the question of the education of factory children. The Local Government found itself unable to accept the principle of making factory owners responsible. But in order to provide an opportunity for schooling they have under consideration a proposal by which the half-timer's six hours period of work should be divided into two periods of three hours each, with a considerable interval between, which could be used for education ; and they wish to enforce this distribution of time by law. The question of amending the Act for this purpose is now before the Government. Meanwhile some steps have been taken to my own knowledge in Cawnpore, and no doubt also in other places, to provide schools on the lines recommended by the Factory Commission. No doubt something will be done. But I very much doubt if any substantial result will be secured till the education has been made, as it very well might be, compulsory for all the children employed.

THE TEACHING OF ECONOMICS

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Economics and unformed Science

Economics is a comparatively young science, and it has not yet reached the stage of evolution attained by most of the natural sciences. These latter have each a considerable body of knowledge which is generally accepted as true, and whereof there has been evolved a recognized order and method of presentation in general works and text books. Economics, on the other hand, has scarcely emerged from the stage of controversy as to some of its fundamental doctrines, and there is but little agreement amongst the foremost authors and professors as to the method or manner of statement of the subject. Naturally this makes economics a difficult subject to teach. It is hard on the student to find so many different, and sometimes conflicting, statements in different books; whilst the lecturer who wishes to do justice to his subject, and not only to present the theory as indicated in the standard books on the subject, but also to state the truth according to his own observations and reasoning, must be prepared for a great deal of severe mental labor.

Important in India, and widely studied

Economics is, however, a peculiarly important subject of study in India. The introduction of European civiliza-

tion and industries amongst its vast population is creating the most serious economic problems, and must do so with increasing force and frequency as commercial development proceeds. Indians have been forced to interest themselves in the science, and they are doing so in increasing numbers. The universities and colleges fortunately have fully realised the demand which exists for the teaching of economics, and they have met it in a spirit which does them credit. If the results of the numerous college courses on economics are not all that could be desired, the reason may be found more in the peculiar difficulty of teaching the subject than in any particular want of efficiency amongst its professors and their assistants.

Present methods of teaching economics

The difficulties of teaching economics just referred to demand, however, in my opinion, that professors of the subject should be men of more than average ability and industry in academic circles, and that they should have enthusiasm for, and devotion to, their subject. Unfortunately it is too frequently the case, especially in India, that these qualifications are not fulfilled. Gentlemen are appointed professors of economics, who have neither pursued a systematic study of the subject, nor proved the breadth and depth of their knowledge of the subject, by publication of results of original researches. Scanning the lists of the professors of economics in the Indian Colleges, one finds many whose principal subject of study has been history, or the English language and literature. There are several at the head of the departments of economics in their colleges, who have not obtained their M. A. degree. I am far from saying that the passing of an advanced examination in economics, of the M. A. standard, should be an indispensable preliminary to teaching the subject in a college, because a man might have perfectly well qualified himself by private study, and research; and give evidence of his ability

and knowledge in his published writings. But a test, either of successful original research, or of an advanced examination, ought to be applied to everyone before he can be considered fit to direct and control the teaching of economics in any college.

There has been, and still is, too much tendency to regard economics as an easy subject which any one of academic standing can assimilate by reading a number of books. The prevalence of this idea is to be attributed, I think, to the character of so many books on economics. They are written by men who have only a superficial comprehension of the subject; but have plenty of information, and perhaps a ready pen, at their disposal. The general and well recognized principles of the subject are presented in simple language, perhaps with numerous examples, very often reproduced from old books. The real difficulties and intricacies of the subject are entirely glossed over. The reader learns about as much of the real science of economics from such books, some of which are recommended for the M.A. examinations of Indian universities, as students of chemistry and physics could learn from reading the works of the eighteenth century treating of phlogiston and the corpuscular theory of light. Many writers on economics, unfortunately, have no gift of stimulating thought. They take the reader skimming over the surface of the subject; and give no insight into its depths. The result is that the student has no idea how to continue the study of the subject by his own observation and by further reading; and when he is brought into contact with the problems of practical economics, and is then confronted with unfamiliar facts and statements, he is entirely floored. It is well, indeed, if he realises his inability to understand the actual economics of the industries and trade of any country. Too often he has gone just so far as to think that the few generalizations he has learnt are applicable to all countries at all times just as they are stated in his text-book.

The fundamental difficulty appears to be these bad text-books, and even more pretentious works of the same character; and the large circulation which they enjoy is due to the unformed character of the science of economics which was referred to above. It is not unnatural that persons who have mastered a number of such books should think that they can teach economics; nor is it to be wondered at that principals and councils of colleges are apt to accept their view. The mischief is continued and accentuated by the pernicious habit which prevails so extensively in India of dictating notes in full to the students. This in reality means that the students merely assemble to take down in writing another text-book composed by their own particular professor. I shall show later that there are many reasons why this method of delivering so-called lectures cannot be too severely condemned; but for our immediate purpose we may note that it fails in any degree to neutralize the evil effects of the easy-going text-books. The superficial teaching of economics is further confirmed by the character of questions set in examinations, for the student is thought to have learnt economics when he can pass an examination which is largely based on books and notes of this character. The questions set often require little or no original thinking on the part of the student; but merely the mechanical repetition of a portion of a text-book or of a lecturer's notes. Hence a certain degree of responsibility for an unsatisfactory state of affairs rests with the examiners.

No recognized principles of University Teaching

The difficulty of improving the teaching of economics arises to a great extent from the absence of any generally recognized principles relating to the art of teaching subjects to the standard of university examinations. Unlike elementary school teaching there are no generally recognized methods of collegiate education, whether formally based

on the laws of psychology or of a purely arbitrary character resulting from experience.

University professors and lecturers have been allowed to follow their own devices, and university curricula and examinations are designed without any clearly recognized objects. It is necessary, therefore, for me to deal with general principles of university education, and to express my views thereon. As regards the teaching of economics, I must then indicate what I regard as the ideal, assuming it to be possible to modify the university curricula and examinations, together with many time-honored customs; and then I must deal with the even more difficult question of the extent to which individual teachers can at once, without waiting for changes of university curricula and examinations, realise the aims which I shall indicate as desirable.

The Objects of University Teaching

Probably there is no subject about which there is more diversity of opinion amongst experts, or more misconception amongst the public, than about education. In Europe and America the general trend of the restless criticism of existing education, and of the numerous experiments in new methods which are being made in schools, is in favor of *teaching to think and to do* rather than of only teaching to know. The aim of most is to develop the perfect man or woman with powers of learning, powers of doing, powers of being and powers of enjoyment far transcending those of the person not so developed. Incidentally the scholar should acquire knowledge, but the number of facts or principles he is to learn in class is regarded as altogether subordinate to his learning the difficult art of teaching himself.

Their ideal is first to give the student a taste for knowledge for its own sake and then to teach him how to observe all that is going on around him, how to learn new truths

from what he sees and hears, and how to obtain knowledge for himself from text-books and books of reference. They would also teach him initiative—to have the will and the power to make use of his knowledge, and his ability to acquire it, in action of various kinds. Their view is that during the few precious years of school, or school and college, there is no time to teach a boy all the knowledge he will want as a man even if he could at an early age decide his future occupation and thus know what body of knowledge would be most useful. His attendance at the secondary school, and still better at college also, is the great opportunity of life to develop his ideals and his capacity for assimilating knowledge by his own exertions.

These principles have obtained little or no explicit recognition in university degrees or in the courses of study prescribed therefor. Throughout the British Empire, France and America, and to a great extent also in other countries, the university degree signifies the acquisition of a certain amount of "learning". The graduate has some knowledge of the classical languages, and of literature and history, or he may have been instructed in mathematics and the natural sciences. He is supposed thereby to have widened his out-look on life, to have become cultured, and so to have become capable of an appreciation of intellectual pleasures. These are all admirable objects in themselves; and when candidates for a university career were confined to the aristocratic and governing classes and to those whose prospects lay in the church, in the law, in academic life, or in secondary school teaching, as in England until half a century ago, the prevailing type of university curriculum seemed to answer all purposes. It had come down the centuries from the Middle Ages with little modification except the addition of the natural sciences as subjects of study; and so was generally accepted without question.

Even at the present day the aims and objects of university education receive very little consideration; and the

curricula are modelled and remodelled on the old lines with a view to affording opportunity of acquiring "polite learning" and a wide knowledge of certain subjects. Yet, at the same time, there is an important movement tending to make university training more and more a path of entry to government service, to various professions and to a business career in commerce or industry. For whatever purpose intellectual training is required, the tendency is to look to a university organization, including its affiliated colleges to supply it. This is particularly true of India; but the same tendency is manifest in England, America and other countries.

To be required to supply training for almost every kind of occupation needing intellectual ability is a new call upon the universities to which they have made a most inadequate response. Indeed their governing bodies would scarcely seem to have an adequate appreciation of the character and urgency of the problem which has arisen. Even under present conditions an Indian graduate finds the possession of a degree an advantage to him in obtaining employment; but it is an advantage which is continually decreasing because the number of openings for new B. A's, who have studied at colleges in accordance with present methods is strictly limited.

The problem which presents itself, therefore, is how to modify the university course, and the character of the teaching given in the affiliated colleges, so as to meet the situation which has arisen without any revolutionary changes and without any great expenditure of money. It is impossible here to enter upon a full discussion of so big a question. It must suffice for my present purpose to indicate the main principles of the changes needed. Their advantage lies in the fact that they are not only adapted to the wants of the young men anxious to enter a business or professional career, but will be equally advantageous to

those classes of students whose needs the old fashioned learning has been supposed adequately to meet.

Desirable changes of University methods

The principal alteration needed in the method of college teaching is to give much more attention to developing powers of correct thinking, and good habits of thought, and to moulding the character by inculcating intellectual honesty, patience, perseverance, and thoroughness. It is not sufficient for generations of professors to continue scattering seed in their class rooms unless they are prepared to love and tend the soil, as every successful farmer is obliged by Nature to do. They must thoroughly plough in the seeds of the knowledge they would raise by making their soil, the minds of their scholars, receptive and retentive—eager to receive, and capable of a healthy and manifold reproduction of the knowledge implanted.

The preparation of character, the instruction in methods of learning and discovery, of solving problems and surmounting difficulties, both analytical and constructive; the instruction in composition and exposition up to the point where the student attains complete confidence in his powers through their successful exertion, and a correct appreciation of his abilities and limitations—all this, as it seems to me, should precede any attempt systematically to impart a wide knowledge of particular subjects. There must be, of course, a study of certain scientific or literary subjects in order that such instruction may be made the medium of developing in the pupil the features of character which I have just enumerated. But the subject matter studied, whilst naturally it should be that which interests, or will be useful to, the student, ought, I maintain, to be regarded explicitly during the school and early college years much more as a means to an end—the development of character—rather than as an end in itself.

The foregoing considerations may lead us to some definite conclusions as to the character and scope desirable for the degree courses of Indian Universities. They indicate, I think, that it is important to assign different objects to the courses for the first degree, whether B.A. or B.Sc., on the one hand, and to the courses leading to the higher degrees, M.A. or M.Sc., on the other hand. The first should aim, it would appear, chiefly at inculcating proper methods of thought and of work according to the principles explained above. As a secondary object only, courses for the bachelor degrees might aim at giving the student such an introductory knowledge of the subjects studied as would enable him, should he so desire, to follow up the subject by himself at a later period by private study.

Courses for B.A. and B.Sc.

The chief function of the courses of study during the student's first four years at college should, in my judgment, be the formation of character, the acquisition of good habits of thought and of industry, and the stimulation to energy, enterprise, ingenuity and self-reliance. All this can be done with properly arranged lectures and practical work; but upon the importance of the latter too great stress cannot be laid.

The essential conditions for realising such ideals in the first degree courses would seem to be four in number:—

(1) A considerable reduction in the scope of the course, that is to say in the extent of subject matter to be covered in each year.

(2) The formation of classes containing comparatively small numbers, say not more than 40 or 50, together with such a subdivision of the class for the practical work that each student may get adequate individual instruction. Practical exercises to be carried out by the students under

the personal supervision of the lecturer and his assistant should be devised for all arts courses as well as science classes. Mere writing of essays is not sufficient. The practical work in the arts courses should embrace critical examination of texts (originals being shown whenever possible), and the working out of problems, summaries, and constructive work of a simple kind, but similar in methods to original research work. The existing practical courses in the natural sciences need no change except it be a greater insistence on thoroughness, accuracy and individual initiative; whilst heads of departments should be alert to the danger of trying to cover too much ground in the time available.

(3) The third essential condition is the abolition of the test by examination at a single date as the sole criterion of a student's work throughout one or two years. My ideal examiner is one to whose normal functions of conducting an examination at a fixed date each year there is added the duty of a kind of continuous inspection, his business being to visit each college from time to time, actually to meet the lecturers and students at their work, to inspect the latter's note-books, and to make such practical tests as he might think fit at any time. He would make notes of the work of individual students, and proper weight would be given to these in conjunction with the marks obtained at the university examinations in deciding whether to grant or withhold the degree. One great advantage of a localized university, such as that of Benares is to be, is that it will render practicable the adoption of this and other measures tending vastly to improve the quality of education.

(4) Obviously there is one other condition of success: a full realization by both the teaching faculties and the examiners of the new ideals in education which I have outlined, and a sufficient zeal and capacity for hard work, as well as love of teaching, to secure the translation of

ideals into practice. The opinion has already been strongly formed in my mind that it is not more colleges, or more chairs in existing colleges, which India needs most to-day so much as a far more careful selection, both in England and in India, of professors of the right stamp—men who not only know their subject, but are also born teachers and workers. The kind of man who delivers the prescribed number of lectures (usually by simply reading a well worn set of notes) and has no individual intercourse with the students is not merely a useless part of the educational machine, but is actually an obstacle to progress, because he is occupying a place of trust which might, if more care were taken to have this object in view when making selection from candidates, be filled by a better man, conscious of his trust. Much good would result if the practice which is extending in England, and prevails particularly in Scotland and Wales, of appointing each college professor who is a head of department to be an “internal” examiner could be adopted in India. In this system each of the responsible teachers works as a kind of assessor for his own students in the university examinations along with the external examiner, whose decision is always final. In the B.A. Honors and M.A. examinations each of the internal examiners examines all the candidates from all the colleges. By this arrangement the examinations are brought into vital touch with the teaching work; and the practice is a very great encouragement to professors and lecturers. It might prove difficult to work, however, in a federal university if there were more than three or four affiliated colleges.

Courses for M.A. and M.Sc.

Courses for the degree of *Magister* will require to be of a different character from the B.A. and B.Sc. courses. They must be based on the assumption that students willing to spend an extra two years at college studying

a particular subject are looking forward to some career in which a detailed knowledge of that subject will be of special use to them. The syllabuses for the examinations must be designed, therefore, in such a manner as to require the student to obtain some grasp of every province of the subject. I use the words "some grasp" advisedly, for manifestly it is impossible that any man should learn in a couple of years a tenth—nay, a hundredth part—of the vast store of knowledge which scores of thinkers have by now accumulated in every science. Even in courses of study prescribed for the most advanced degrees there is always the danger of attempting to make them too comprehensive; and the unfortunate student is sometimes expected by the examiners to be acquainted with the most out-of-the-way facts in remote countries, and with authors whose names and works are scarcely remembered except by authorities on the history of economic literature or the candidates for such examinations. The ideal for the advanced courses of study should rather be to take the student through the main outlines of every department of the subject—pure theory, applied economics, descriptive economics and statistics, the history of theories, and economic history; but without any attempt at insistence on an equally detailed study of every portion of each of these departments. It should suffice that he knows the principal laws and generalizations and their relations, and a few outstanding facts; and that he has followed some one section of each department into very considerable detail. By the latter process he develops his own powers of appreciation of the subject, and obtains a command over the marshalling and testing of facts and evidence which will enable him throughout his life to follow up at will from standard authorities or original documents any other section of the subject. It goes without saying that everything which the professor can do to continue the character-forming training in methods of work which I have

advocated as the main part of the B.A. and B.Sc. work, should be done, so that good habits become confirmed.

Practical work in Elementary Economics

It has seemed necessary to deal at length with some of the general principles of university education because in writing of the teaching of economics I am obliged to assume that the teacher has in view the ideals I have outlined and is striving to realise them so far as his individual circumstances permit. Economics rightly taught can, I am convinced, be one of the most educative subjects; but "taught" by the lecturer dictating notes in full, and the student cramming up his notes and a few plausible text-books, it is merely neutral, or it may even be pernicious, by creating false confidence and self-satisfaction. If pure cramming is to be allowed, it seems to me not to matter very much whether the student crams the Decline and Fall of the Roman Empire, the chemistry of the benzene derivatives, or the theory of distribution. The educational value is the same—practically *nil*. On the other hand there are reasons why, given an earnest teacher, and an understanding of the proper objects and methods of teaching, economics can be made a peculiarly educative subject.

The great asset of economics is that it deals with the affairs of everyday life. The whole theory of utility and most of the theory of exchange is composed of inductions and deductions from facts which are in every person's experience. All the facts of labour, and production, and much that illustrates the theory of distribution can be observed by making inquiries in any locality, agricultural or industrial. The economist is just as well situated as the geologist or the meteorologist in being able to find everywhere illustrations of many parts of his theory. It is necessary to teach students how to observe and record facts; and my own practice has been to exercise students from the beginning in the most elementary class in three

main fields of observation. In connection with the theory of utility they are taught to observe their own feelings, motives and actions in relation to the consumption of commodities, to keeping stocks of commodities, and to exhausting and replenishing them by their own labour or by purchase. They are also instructed to question other people on the same points, in order to ascertain which facts are generally true and which are subject to variation from person to person.¹ Equally important and far more difficult for the student to learn than the correct ascertainment of such facts, is the accurate and precise record of them on paper and the drawing of deductions from them. It is here that all the teacher's resources of ingenuity, patience and perseverance are called into play. The student who has never had a definition of marginal utility given to him is led through many lessons to arrive at the idea by analysis of his own experiences, and is then required to express that idea in his own words logically and concisely, his repeated attempts being firmly but encouragingly criticized. With my elementary class at Cardiff my practice was to ask the students to assume themselves in hypothetical situations which I defined clearly and then asked them to work out the consequences. With a similar class in India perhaps I should take some such example as the following: "suppose you are travelling with a friend and arrive at a railway station very hungry and find that the only food available is a few *puris* and mangoes. There are but six small *puris* immediately available, but the mangoes are practically unlimited in number—too many for you to stop to count. Draw your own utility curves for *puris* and mangoes at the moment. Draw hypothetical curves for your

¹The lecturer on Economics may perhaps find some useful hints on illustrating the theory of utility by consulting my "Essays on Economics" (Macmillan & Co., 1905). It is, of course, necessary that the teacher should be expert in observation himself before he undertakes the practical instruction of his students. Whilst observation is largely a matter of taking infinite pains to ascertain the truth, some degree of practice and instruction may best be obtained by attending a good course of practical physics or practical mineralogy.

friend and prove from the curves what distribution of *puris* and mangoes between you will afford the maximum satisfaction." When this is done it is easy to introduce all kinds of fresh problems by assuming various prices asked for the *puris* and mangoes and assuming different sums of money at the disposal of the friends, and that they have various other wants of different present or future urgency.

At Cardiff my class was taken for such work in sections once a week for periods of about one and a half hours at a time, each section of the class containing twelve to fifteen students at most. For such practical work the students had to supply themselves with a scale, set-square, and graph paper; and I went round from one to the other assisting them in working out the problems set. Some students never would apply themselves properly; but many I have seen improve wonderfully in their capacity for thinking precisely and expressing themselves clearly after a session's drilling. In some students I seemed to find a quite unnatural incapacity to think for themselves: and I came to question whether the methods of teaching in some secondary schools were not actually deleterious, tending to deaden rather than to enliven the faculties.

Whilst strongly believing in this practical working out by graphic methods of examples illustrating economic theory, I have also always taken steps to stimulate observation and thought in two other fields: the phenomena of markets and prices as recorded from day to day in the commercial columns of the newspapers, or in weekly trade papers, which the students are required to read, and in the field of production and transportation by conducting excursions to visit and examine into factories, mills, engineering works, railways, docks, and whatever similar works might be available. If the object of a visit be fully explained to a works manager it is usually possible to get much information as to the business management; and it is well to request to have copies of forms in use and to be allowed to inspect

and show the students some of the pay sheets and books of account. The factory office and its functions in running the whole business should not be passed over.

The rate of progress through the theory of economics when the students are made to work much of it out for themselves is distressingly slow; and when there is an examination syllabus of wide scope hanging over the class, the lecturer must from time to time devote himself to covering the necessary ground. Yet although there may be less time available than is desirable, the effects of such practical work are always good. If it be thoroughly done the students get a real grasp of one particular section of the subject—they are in real living contact with what scientific knowledge and methods mean and they know it and feel it. Having once had their eyes thus really opened upon one small part of the subject they look upon all the rest of what they hear in lecture with a different eye, and—shall I say?—with a certain degree of awe and respect which is entirely good for them, for they begin to realise what an immense amount of hard thinking and intensive observation has gone to building up the great mass of knowledge composing the science.

Text-books of Economic Theory

As already pointed out earlier in this article the choice of text-books is a matter of the greatest importance. In consonance with the principles which I have laid down, my own choice of text-books always falls upon those which, besides being accurate and up to date in the presentation of economics, are precise and clear in language and illustrations, and systematic in their presentation of the subject as a whole. A book which is careful in its definitions and use of technical terms and also adopts the mathematical conceptions appropriate to the subject and gives them adequate diagrammatic representation, is of the greatest educational value. The majority of economic text-books,

modern as well as olden, entirely fail in these respects; they give students no mental discipline or real understanding of economic forces and how to represent them.

There is no space for me adequately to discuss this question of text-books; but I may perhaps indicate where my preference lies. For mental discipline I think very highly of the books of Mr. Wicksteed and some of Professor Irving Fisher's. Good use can be made in elementary classes of the former's *Alphabet of Economic Science*, and his *Common Sense of Political Economy* is a most valuable, if somewhat lengthy book. Professor Fisher's recent *Elementary Principles of Economics* is good, if it be used in combination with another book, such as Professor T. N. Carver's *Theory of Distribution*. Chapman's *Outlines of Political Economy* is a closely packed and stimulating volume, which can be very useful for a class which receives a good deal of individual attention from the lecturer. Another book which the students can be beneficially encouraged to read is Clark's *Essentials of Economic Theory*. I have made no mention so far of Marshall's books because of the prominence which I would give to method and arrangement in recommending books for elementary students. If students are really to learn economics, however, they will have to study Marshall. My elementary class in Cardiff had always three or four text-books on the theory of economics, one of them being Marshall's *Elements of the Economics of Industry*, from which I prescribed the reading of certain chapters at appropriate stages in the course. They were also given portions of the *Principles* upon subjects which had been adequately introduced either by other text-books or in the lectures.

It is impossible to find a book of the character of any of those mentioned above, which illustrates theory by reference to Indian conditions. The only one which approaches this ideal, is Moreland's *Introduction to Economics for Indian Students*. The title very accurately describes

it. So far as it goes it is an admirable book ; but a true appreciation of economic theory can only be obtained by studying some of the books I have named, or others of a more advanced character. The lecturer himself must apply the theory to Indian conditions at every stage throughout the whole course.

The foregoing remarks as to text-books will not, I am afraid, be encouraging to teachers of economics in India. The difficulty lies in the unformed character of the science, and much work lies open for economists in the writing of really satisfactory text-books of educative value. There is, I am afraid, no method of giving students an adequate conception of the subject of economics without the use of several text-books. If the professor familiarizes himself with all the books I have named, he will be able to draw upon them, and put them in the hands of students as may from time to time in his judgment seem necessary.

The central fact must ever be kept in view that economics is a science treating of quantities which vary and can be compared, and are more or less susceptible of measurement. In the nature of its subject matter and method it resembles closely some of the physical sciences, more particularly physical chemistry and various branches of physics. It is an observational rather than an experimental science, and its method is in many respects similar to that of meteorology and geology ; but it is more directly concerned with quantities and ratios than the latter. Economics would have, in fact, as many educational advantages as any one of the natural sciences, if its possibilities were to be properly exploited. It transcends any natural science in its vital human interest, and also in the manifest importance to society and to the state of having a correct understanding of its principles and doctrines widely diffused.

CURRENT NOTES

Trade in Northern India has been in rather a peculiar position during the past twelve months. We are informed that there has been quite a slack demand for manufactured goods, whether cotton, woollen, or leather. This would seem to be peculiar, because the cultivator has been getting exceptionally good prices for wheat and all food products, whilst there has been no famine. It is true that there has been some scarcity of food stuffs, so that the prices have been decidedly high; and the conclusion which seems to suggest itself is that this has distinctly reduced the purchasing power of the poorer classes for manufactured goods. If this be really the cause, it would seem to show that the purchasing power of the town populations and of the artisans and labourers, whose wages are more or less a fixed rate, forms an important part of the whole demand, so that the decreased purchasing power of these classes has overbalanced the somewhat increased purchasing power of the cultivators. This, of course, is merely a seemingly probable hypothesis offered by way of explanation. The whole subject needs most careful investigation by an economic and statistical expert.

It was with much regret that economists in India learnt during last rains of the resignation of Dr. W. R. Scott from

the Chair of Economics in the University of Madras. Dr. Scott was for many years Professor of Economics in the ancient Scottish University of St. Andrews, and he is best known for his monumental work in three volumes on the History of Joint Stock Companies in Great Britain. A year ago he accepted the Madras professorship after some hesitation on account of the climate. Then occurred the lamented death of Professor Smart of Glasgow University. Thus one of the premier professorships of economics in the United Kingdom was open; and Dr. Scott's appointment was almost a foregone conclusion.

But our regret at failing to secure for Madras a man so talented, practically minded and industrious as Dr. Scott, was much tempered by the news that the Madras University Syndicate had appointed Dr. Gilbert Slater, who has been since 1910 the principal of Ruskin College, Oxford, the institution founded for the higher education of working men. Dr. Slater who reached India and took up his duties a few weeks ago, has made some important investigations into the history of land tenure in England, some of which are published in his book on *The English Peasantry and the Enclosure of Common Fields*. He is also a man of the keenest social sympathies fully conversant with all the movements for economic and social reform in England. It may be confidently anticipated that he will apply himself in the same spirit to the great problems which India presents.

During the present session the special "cold-weather" lecturer on economics at the Punjab University, Lahore, is Professor J. A. Todd, B.L., who is Professor of Economics at University College, Nottingham, and who is well known for his handbook of *Economics and Public Finance for Egyptian Students* and for his recent book on *The World's Cotton Crops*, which we hope to review in our next number. Prior to his appointment at Nottingham, Professor Todd

for many years held the Chair of Economics at Cairo, where he undertook that detailed study of the technique and economics of the cotton growing industry, and the marketing of raw cotton, for which he is justly earning a widespread reputation. He has travelled in the American cotton belt, and has recently made extensive inquiries in the cotton growing districts of the Central Provinces and the Punjab.

Professor Todd has been good enough to give single lectures in stations as widely separated as Rawalpindi and Allahabad, but we cannot help feeling that his special knowledge of the cotton trade is somewhat wasted on Lahore which is not a commercial centre especially interested in cotton. In our opinion the improvement which is so greatly needed in the growing, ginning and packing of Indian cotton, so as to secure a better quality and a much higher price, must come on the initiative of the merchants and spinners situated in the big centres of Bombay, Ahmedabad and Cawnpore; and it is there that the stimulus of Professor Todd's lectures, which bring out so vividly the practices of other countries, is really needed.

The meeting of the Indian Science Congress, which has been held at Lucknow and which, as we write, has just terminated, appears to have been an unqualified success. There was some idea of forming an Economics Section at this congress; but the proposal has not yet obtained sufficient support. The British Association, which is the corresponding science congress in England, has had a section of Economics and Statistics for nearly half a century past. We think there is ample scope for such a section in India and trust that it may be possible to organise it for the ensuing congress which will be held early next year.

REVIEWS OF BOOKS

RELATING TO INDIA

A Policy of Rural Education. BY S. H. FREMANTLE, C.I.E., I.C.S., with a Foreword by SIR JAMES MESTON, K.C.S.I., Lieutenant-Governor of the United Provinces. Allahabad : Pioneer Press. 1915. pp. 42. Price 4s.8.

Whatever may be thought of the opinions expressed by Mr. Fremantle in this pamphlet which he has recently published, it will be admitted that he could hardly have devoted his leisure time to a more important public service than that of again bringing into public discussion the thorny question of Rural Education. Economists are never tired of pointing out that to secure economic progress in a country of small cultivators universal education is absolutely necessary. This truth has obtained such general recognition that the Government of India is committed to a policy of extending primary education in rural areas as rapidly as may prove practicable.

Besides the financial handicap, however, a serious difficulty arises from the fact that there is no general agreement as to the character of the education which should be given in village schools. Many people urge that any education is better than none, and that schools should be opened as rapidly as money and teachers can be found. But this view would seem to overlook the difficulty that teachers have to be trained in large numbers; and once trained to teach certain subjects in a certain manner it would be only with the greatest difficulty and expense that they could be re-trained to provide education on a totally different system, which might after a few years prove to be the best. There is much to be said, therefore, for a Fabian policy in actual expenditure, so long as the present time is fully utilized for an active discussion of the type of instruction most suited to the needs of the masses of the Indian

people. Hand in hand with discussion should go repeated or continuous experiments made in different districts under different conditions to test the various principles and methods of teaching proposed. Whatever the official views at any particular time, it is to be hoped that the educational authorities will not lose sight of the importance of basing their ultimate decision on the results obtained in carefully watched experimental schools. Such experimental schools should not have lavished on them unlimited resources and special teachers, but should purposely be fitted and staffed upon the modest scale which it is financially possible to multiply indefinitely until every village, or group of small villages, is provided with a school. We think it is more particularly upon deciding the type of education to be given, and upon recording in detail the results obtained, that much care should be spent.

Mr. Fremantle begins this pamphlet with a discussion of the principles of education to which, he thinks, far too little attention has been given in England and in India. In the second chapter several important quotations are given in criticism of the English system of general elementary education which is proving itself to be most badly adapted to the real needs of the country, because the children have been made to give "their whole strength to the learning of words, to verbal instruction, to intellectual culture". There is no attempt at training the children for their life's work, or at developing them physically and morally. In the third chapter the system of primary education in India is briefly described, and Mr. Fremantle deplores the fact that no distinction is made between the character of the teaching in the urban and rural schools. He finds, for example, that no text-book of arithmetic especially adapted for rural schools has been brought out; and we agree with him that this is surprising because of the complexity of the arithmetic required in keeping all the village accounts of rents and revenue in their due shares. It is vital to the welfare of the cultivators that they should understand how these accounts are kept, and how the interest on their loans is calculated. If the children were taught with reference to local conditions, instead of learning sums and other subject matter which must be quite unreal to them, they would not only learn faster, but would establish a public opinion amongst the cultivators in favor of education. In Chapter IV we find a full account of what is being done in other countries in the way of popularising agricultural instruction and of lending an agricultural colour to elementary education in rural districts; whilst in the last chapter Mr. Fremantle

sets forth his own conclusions as to what is practicable in the way of modifying the primary education in rural India in the same direction. He anticipates the greatest benefits from such a reform; and we do not think he is at all too optimistic. The pamphlet commends itself to economists and should be widely read. We hope that it will at least force the educational authorities to show cause why they should not, or cannot, carry out the policy it recommends. We hope indeed that they will be unable to show any cause for anticipating failure, and may be induced to make further extensive experiments in different parts of India in the hope of realising the ideals which Mr. Fremantle brings into prominence.

The Economic Effects of the War on the Trade in India. A Lecture by Mr. J. K. MEHTA, M.A. delivered at the Government College of Commerce, Bombay, on 17th February, 1915.

This pamphlet contains an interesting and suggestive recapitulation of the principal measures adopted by the British Government to meet the extraordinary conditions of finance and trade produced by the outbreak of war. Little attempt is made to analyse or explain these conditions, or to point out how the measures adopted were intended to meet the circumstances, but that is perhaps not to be wondered at in view of the date at which the lecture was delivered, and the difficulty of such an analysis even to those who were in much closer touch with affairs in London than was possible to students at a distance.

It is not easy to check the statistics given for the different trades in India as shewing the effect of the war, because those given for the cotton trade, for example, do not always tally with the official Liverpool figures. The close connection between American and Indian cotton prices is merely referred to, and even the figures given are not analysed at all; while their effect is somewhat vitiated by a printer's error which gives the average price of American Middling for 1913-14 as 7.06 instead of 7.26.

There is great room for serious study, statistical and otherwise, of the position of the Indian Cotton Trade; and this paper will serve a useful purpose if it turns the minds of students and teachers of economics in India to the question.

Theory of Co-operative Credit (including a Brief Sketch of the Credit System).—By H. HEMANTA KUMAR GHOSH. pp. 212 with Appendix pp. xlv. Calcutta: S. C. Auddy & Co. Price Rs. 2-8.

Though the progress of co-operation in India has been acknowledged on all hands to be quite phenomenal, yet there is room

for further development in many directions. But the greatest drawback to this progressive movement is the lack of the knowledge of true co-operative principles on the part of the members and promoters of co-operative societies. Books, like the one under review, are needed at the present day to enlighten the more educated among the promoters and members of co-operative societies.

The three chapters in this book dealing respectively with the systems of Raiffeisen, Schulze Delitzsch and Luzatti are very lucidly written and are well worth perusal by all practical co-operators. We wish that the author had given us a comparative view of these three systems and had discussed somewhat more fully their applicability or otherwise to Indian conditions. The chapter on "The Evolution of Co-operation" is unnecessarily prolix and lengthy, and that on "Credit in Co-operation" contains much repetition of former chapters.

We have read with great interest the chapter on "Co-operative Credit in India." The author shows very clearly that the chief cause of distress during famines in India is "the want of money and not of foodstuffs." He then rapidly passes under review the various attempts that have been made since 1882 to combat the evil of indebtedness amongst Indian agriculturists and shows that "although the State has initiated the movement and helped it at the outset, . . . the State has no desire to display any duty towards this movement beyond that which belongs rightly to every state with regard to the economic institutions of its people." The author doubts the wisdom of starting societies by "members of the same tribe, class, caste or occupation." As a matter of fact such societies are very few in number and are not officially encouraged; and even the existing communal societies do not display the rigorous exclusiveness of former days.

We find ourselves in complete agreement with the author's views on the great question of the right use of the reserve fund. "In the investment of this fund," rightly says the author, "security should be the first object, availability the next and profit the last, but, in no case, should this fund be allowed to undergo the risk of being utilised in the business of the society." These are sound views expressed in impressive words.

Though the author has incidentally dealt with them, we think that the effects of the co-operative movement in India—economic, moral and social—should have formed the subject of a separate chapter. Wolff, Fay and Holyoake have exhausted the theoretic

consideration of co-operative principles and their applicability to Western conditions. What is wanted is a book that will consider these principles in the light of Indian conditions and will show us new lines of development and progress. As it is, the book before us will serve as a useful introduction to the study of co-operative principles by students of co-operation and practical co-operators.

The Co-operative Credit Movement in India. BY PANCHANANDAS MUKHOPADAYAYA M.A. Assistant to the Minto Professor of Economics, Calcutta University. (*The Indian Citizen Series : No. 1*) Calcutta : Rai M. C. Sardar Bahadur & Sons. 1914. pp. iv, 156. Price Re. 1.

This little book is an excellent introduction to the study of the co-operative credit movement in India. Its author, Mr P. Mukherji, as he is more frequently styled for brevity, is editor of the Indian Citizen Series, and this is the first volume of the series. We review two subsequent volumes below ; and whilst each must be judged on its merits we should like to commend the energy and enterprise of Mr. Mukherji and his publishers in commencing a series of books of this character. They were intended to give information gathered from the most authoritative sources on Indian economics, administration, currency, public finance, etc. ; and are expected to be useful to young men at the universities who have not the opportunity to study the diverse documents illustrating subjects of interest, because they are scattered through numerous reports, periodicals and Government publications.

In accordance with this excellent idea of making the documents accessible, we find the volume under review divided into two parts : the first a general introduction to the subject of co-operative credit in India, and the second consisting of six appendixes, two containing tables of official statistics, three consisting of model bye-laws for co-operative societies of different kinds, and the text of the Government of India resolution of 17th June 1914 on the growth of co-operation in India. We think that parts of the Co-operative Societies Acts might well have been introduced as another appendix. The first part covers the Co-operative Credit Movement in all aspects—a few introductory pages as to its success in other countries, followed by a chapter on rural indebtedness in India, leading to chapters which give the history of the growth of the movement and show the difficulties overcome, whilst in Chapter VIII there is a very useful discussion of some outstanding questions of finance and control. The book is suitable for the

B.A. economics courses of Indian Universities for which it ought to be widely recommended.

The Permanent Settlement in Bengal. BY S. C. RAY, M.A. Assistant Professor of Economics, Calcutta University. (Indian Citizen Series. No. 2.) Calcutta: Rai M. C. Sarkar Bahadur & Sons. 1915. pp. 123. Price *Rs.* 1.

This little volume by Professor Ray consists mainly of reprints of documents bearing upon the establishment of the permanent settlement in Bengal and on the subsequent consideration of its extension elsewhere. We have the Court of Directors' Despatch, 1792, followed by the Regulation I of 1793. Next come extracts from Colonel Baird Smith's report and Muir's Minute, both dated 1861. We have also Sir John Lawrence's Minute, and Extracts from Sir Charles Wood's Despatch of 1862 announcing the readiness of the British Government to sanction extensions of the permanent settlement.

The introduction written by Professor Ray extends only to forty pages and deals with the Permanent Settlement in a great variety of aspects, besides discussing several vexed questions relating to it. It explains the rights of zemindars and ryots prior to 1873, the objects of the Permanent Settlement, and the expectations formed, and the disappointments and mistakes which have been realised. The financial results are very briefly touched upon; and in a few pages the author deals with the arguments put forward against the Permanent Settlement; with the philosophy of private property in land; with the very technical question of the legality of the imposition of cesses under the Permanent Settlement regulation; and with the economic question whether the land revenue is a tax or rent. It will be seen that the author has attempted to cover an enormous range of subject matter in the course of a few pages, and this is the principal criticism we would make of the book. It is a very great convenience to have these documents reproduced in so handy a form; but the introduction, whilst it is in many ways suggestive and informative, fails, in our opinion, to be convincing. The author discusses many controversial questions, such as exact meaning of the Permanent Settlement, and whether new cesses are excluded; and the tendency of his argument is in the direction of showing that it is impossible for the Government to maintain the Permanent Settlement in the strictest interpretation of excluding all additional taxes. By trying to cover so much ground in a short space he has been led to making assertions which he does not seriously attempt to justify: and we

cannot but think that this is a bad example to students, for whom the book is, no doubt, largely intended. Take, for example, from his page 33, the following:— "Apart from abstract reasoning based on a distinction between local and imperial taxation, the terms of permanent settlement clearly make the fixity of the land revenue conditional on improvements to be carried out by zemindars in their estates." We have looked in vain for any such condition in his reprint of the Regulation of 1793; and can only note in its *sixth article* the pious hope that zemindars will be induced by the permanent settlement to make improvements—which is a very different thing. We wish it had contained Professor Ray's condition; but we cannot let the wish be father to the thought. Very likely Professor Ray is right in most of his general contentions; but we should much like to know what is his evidence for other statements as well as the one we have quoted. We hope that a second edition of the book will be called for, and that he will then be able to write a more extensive introduction.

Indian Constitutional Documents (1773-1915). Compiled and edited with an Introduction by Panchanandas Mukherji, M.A. Assistant to the Minto Professor of Economics, Calcutta University. Thacker, Spink & Co. pp. lxxvii, 473. Price Rs. 6 net.

This volume, the third of the excellent Indian Citizen series, of which Professor Mukherji is the General Editor, is one of the most useful books of the year. For a long time, students of Indian constitutional history have felt the need of such a compilation. The Government of India, based as it is upon positive law, cannot be understood without constant reference to the English statute books; and the labour of disinterring from many massive volumes the particular passage to which reference is required, must be experienced to be appreciated. Professor Mukherji has succeeded in appreciably lightening the labour of subsequent generations of students, by compressing into moderate compass the essential portions of the more important enactments which concern the development of Indian Government from 1773 to 1915.

The book opens with an introduction; and the collection of documents is divided into seven parts. The first consists of general documents, varying in date from 1773 to 1858. It is not altogether satisfactory because, while presumably intended to supply a key to the historical development of the Indian constitution, it fails to provide a sufficient number of stepping-stones to bridge the gap between the beginning and the end of the period it covers.

However, as Professor Mukherji's aim is not so much to provide materials for the historian as to afford some guidance to the student, this criticism is no formidable indictment of the book as a whole. The second part consists of documents relating to the constitution of the Council of India, while the third deals with the constitution of the Imperial and Provincial Executive Governments. The fourth part relates to the Imperial and Provincial Legislative Councils, and is the longest and most elaborate section of the book. The fifth and sixth parts consist respectively of Documents relating to the constitution of the Indian Judiciary, and of Royal Proclamations and Announcements. The seventh, and last, section bears upon Provincial Finance and Local Self Government.

From this brief summary the scope of the book, and its great utility to students and writers on the history and government of India, will be at once apparent. The Introduction, which considerably increases the value of the book to the general reader, is divided into sections corresponding with the seven parts of the contents. It describes the documents and gives an account of the circumstances attending the origin of each, sufficient to provide the appropriate historical setting.

At a later date we have received a very useful supplement to this volume containing the text of the Government of India Act (1915). It is issued by the same publishers at the price of one rupee.

Land Revenue Administration in India. Compiled by S. C. RAY, M.A., Assistant Professor of Economics, Calcutta University, 1915. pp. vii, 135. Price Rs. 2-0.

The want of a handy text book on Land Revenue Administration in India, suitable for undergraduates has long been felt. This book is an attempt, and a very successful one, to meet the difficulty. The main principles of administration as they obtain in the five major Provinces have been laid down simply and briefly, together with a short history of the development of Government policy in each province. The introductory chapters, dealing with the general features of the Land Revenue System, Tenures, Revenue Surveys, Settlements, Land Records, Tenant Rights and Land Legislation, are based on the last Report on the Moral and Material Progress of India. The rest of the book is devoted to a more detailed treatment of the five major Provinces, being based on their respective Administration Reports for the year 1911-12.

The book consists entirely of selections from official publications, and must therefore present many points on which Indian public opinion is not quite in accord with the Government view. But the very presence of this element makes it a most suitable textbook for the B.A. students, who must grasp facts and first principles, before their minds are prejudiced by controversial writings. We can recommend it with confidence.

Agricultural Indebtedness and its Remedies. Compiled by S. C. RAY, M.A., Assistant Professor of Economics, Calcutta University, 1915. pp. xi, 468, 14. Price Rs. 5-0.

This is the first of a series of books on economic problems, which the Calcutta University decided to publish for the use of advanced students and teachers. The subject matter of the book has been taken, as was the aim of the University, entirely from official publications, blue books, proceedings of Legislative Councils and so on. Thus the present volume makes available, at a fairly moderate price, a very large amount of valuable material, not easily accessible otherwise, on the very important subject of agricultural indebtedness in India. A very interesting and useful feature of the book is the addition, towards the end, of a number of informing extracts from the "Reports of the Administration of Egypt and the Soudan," dealing with the various steps taken by the Egyptian Government to cope with the problem of agricultural indebtedness in that country. Egypt, like India, is still largely an agricultural country, and the success or failure of any measures, official or non-official, taken with a view to ameliorate the condition of the Egyptian peasantry, must possess great interest for students of Indian Economics.

From its very nature the book must necessarily lack the quality of a continuous and logical development of the subject, but this is not much of a drawback in a book dealing with the subject of agricultural indebtedness. We heartily congratulate the Calcutta University and Mr. Ray, the compiler, on having made a very successful beginning in a direction in which considerable need for work has been felt.

Economics in India. Inaugural Lecture. BY H. STANLEY JEVONS, M.A., F.S.S., Professor of Economics in the University of Allahabad. Allahabad: Published for the University by the Pioneer Press. 1915. pp. 35. Price 4s. 8.

The lecture covers a very wide field, and the professor's views on a great many questions relating to the economics and Government of India can be ascertained from it. There is a very clear

definition of economics, the *positive* science being distinguished from the *ethical* and *applied* sciences of economics. The scope of economics is also discussed in its application to India. Perhaps the most interesting part is from page 20 on. Here the position of the laboring classes is discussed and the problem of raising the standard of living. Finally the lecturer gave it as his opinion that "to governments of the type prevailing in India the expert assistance of trained economic investigators is of especial importance," and proceeded to give fully his reasons for this belief.

We are glad to note that a translation of this lecture into Bengali has been published by Mr. Subodh Chander De of Beadon Row, Calcutta, under the title of *Bharate Artha-Shastra*. The translation was made by Mr. P. C. De, F.R.H.S., of Calcutta, and was very carefully revised by Professor P. Mukerji, Assistant to the Minto Professor, Calcutta.

Fifth Annual Report of the Patna College Chanakya Society.
The Kuntaline Press. pp. 78.

We have read with considerable interest the Fifth Annual Report of the Patna College Chanakya Society, founded in December 1909 by Mr. Charles Russell, M.A., Principal of the College, with the chief object of "infusing into its members a love for making enquiries into the conditions of local industries, collecting village statistics and family budgets, and comparing them year after year in order to ascertain the correct economic position of their fellow-countrymen." The Society has been making steady progress and has at present 118 ordinary and 19 honorary members. During the past session monthly, sometimes even fortnightly, meetings were held during the terms, at which reports of expeditions to such places as the local Agricultural Experiment Farms, the *tikuli* and glass works of Patna, the Giridih Coalfield, and a central co-operative bank, and of work done by individual members were read and discussed. Most of these reports are summarised in the Annual Report now before us which also contains a special report by Mr. Abul Hasn M. Taib, M.A., on "the Position of Small Traders and Artisans in Patna city." Professor Samaddar, President of the Local Economic History Committee, appointed by the Society some time ago, contributes two notes, one on "Some Aspects of Trade and Commerce as depicted in the Jatakas", and the other on "the economic condition of Behar during the Moghul period as portrayed in the accounts left by European travellers." Professor Samaddar is apparently inclined to read too much into the simple

folk-tales he has quoted. While the occurrence of "terms such as plying for hire, buying the ship on credit, depositing advance money", and so on, may mean that business organisation had reached a certain stage of development, it can hardly be made the basis of such a sweeping generalization as "that the science of economics had taken a deep hold even in that stage." The five family budgets included in the report are most interesting and valuable, and give evidence of much patient inquiry, which we hope will be energetically continued. We are not told, however, how far any of the families whose budgets are given can be taken as typical of a particular class or village.

Apart, however, from the intrinsic value of the results achieved, there can be no doubt that the members are receiving very valuable training by their many-sided activities for the Society. We hope they will keep up the interest thus acquired for "continuous and systematic" economic enquiry. We can never have in this country too many men working in the field of economic research; and it is mainly to such societies as the Chanakya Society that we must look in the first instance, to provide that preliminary training which must be the indispensable stock-in-trade of every scientific inquirer. We wish the Society every success, and hope other colleges will follow the excellent example set by the Patna College.

Indian Finance, Currency and Banking. By S. V. DORAISWAMI.
Published by the author, Mylapore, Madras. 1915. pp. iv, 176, xxxii. Price Rs. 2-8.

This book merits more criticism than praise; and it does so in several respects, the more important being the author's opinions, which are entirely at variance with the authorities on the subjects he discusses. This in itself is not a fault; but if he differs from authorities he should give fully his reasons for so doing and adduce a mass of strong evidence. This our author makes no attempt to do. He is content to make assertions; and many of them are of a most startling and untruthful character, as for example: "The State should have nothing to do with financing railways", and "The history of the Indian Debt is a dismal record of financial extravagance and injustice". There are many others of his views with which we cannot agree; but we should be disposed to be less critical if there were any reasonable attempt to make out a case against the persons he attacks.

The book consists partly of articles reprinted from periodicals; and its subject matter is dealt with partly in an elementary manner, which reminds one of Jevons' *Money*, and partly as a his-

torical and technical discussion on currency, exchange, and banking business. We are afraid that the book will not render these complicated questions any clearer to the general public; nor can it be regarded as a satisfactory attempt to help forward the measures of reform which the author evidently has at heart; and with the objects of which we, to a great extent, sympathise. He strongly urges the establishment of a gold mint in India, and the establishment of a State Bank for the assistance of trade. Strong arguments can be made out in favour of these projects; and we wish the author had avoided invective and had throughout carefully marshalled his evidence with reference to what has been done in other countries. In Chapter IX, referring to a State Bank for India, he has to some extent done this; and this chapter may prove useful; as also may the numerous references throughout the book. Mr. Doraiswami has read widely; but unfortunately he has not displayed those gifts of dispassionate judgment, clear thinking, and patient work which are essential in those authors who would succeed in presenting to the public the complexities of currency and high finance. His apologies in the preface cannot make good the actual defects of the book.

Four Papers on Commerce and Statistics. BY D. E. WACHA.
Published by Messrs. D. B. Taraporevala Sons & Co.
1915. pp. v, 93. Price Re. 1-0.

This is a reprint of four papers read and written by Mr. Wacha at various times. The first paper in the brochure deals with the evolution of Indian Trade from 3000 B.C. to our own times. The survey is necessarily a brief and rapid one, but it is eminently clear and systematic and displays an extraordinary amount of historical learning on the subject.

The author shows that Indian trade both by land and sea has existed since the earliest times. Her geographical position, the fact of her being one of the earliest homes of civilization, and her early conquests by foreign rulers such as Darius Hystaspes and Alexander the Great, all contributed to make India a commercial country. Between the 12th and the 15th centuries she became better known to Europeans in the West, and a little later began the historical struggle between the various European nations to capture Indian trade. The East India Company by a system of monopolies hampered us to some extent. But the advent of free trade in 1882, gave a great stimulus to our commercial growth and since then progress has been markedly rapid. Mr. Wacha is a firm believer in free trade though he would allow

temporary protection to some infant industries ; and he attributes our commercial expansion during recent years to the introduction of free trade—a view not held by the majority of Indians. The second paper makes an eloquent appeal for the institution of faculties of economics and commerce in the Indian universities, for purposes of purely scientific technical education and the teaching of economics in relation to commerce, by experts, well grounded not only in modern economics and economic history, but possessed of a large practical experience of trade and commerce. The necessity is indeed very great, as Mr. Wacha has pointed out, and we sincerely trust his appeal, based on a wide study of Indian conditions and wants, will not go unheeded. The other two papers are devoted to an appeal to the educated Indians to study economics and statistics more thoroughly and systematically. Incidentally Mr. Wacha has been led to criticize some Government measures such as the closing of the mints, the sugar legislation of Lord Curzon, and some others. These are controversial points and one may or may not agree with the author. But the appeal proceeding as it does from one of the most sincere workers in the field of Indian economics must go to the heart of every educated Indian, and let us hope it will bear some fruit.

The book is neatly printed, but considering its price the binding might, with advantage, have been better.

Footfalls of Indian History. By the SISTER NIVEDITA (Margaret E. Noble). Longmans, Green & Co. Price Rs. 2-8.

This volume, small as it is, contains no fewer than sixteen essays, dealing with various subjects connected with the history and civilisation of India. The bulk of the book is made up of matter scarcely worth reprinting; but there are two essays which call for special notice. The study entitled *Rajgir, an ancient Babylon*, is pleasantly executed, although the comparison between the two polities reveals a somewhat slender knowledge of the second. The essay on the *Ancient Abbey of Ajanta* is much better: it is indeed the most striking thing in the book. A careful comparison between the Gandharan and Magadhan ideals of religious art is followed by a noteworthy estimate of the value of their respective contributions towards the Indian conception of the Buddha. Further, a description of the Ajanta caves, which forms the thread upon which the whole study hangs, is cleverly used to introduce an illuminating account of the various social and religious activities which made up life in a great Buddhist

abbey. We are glad to see that in this reprint, the Publishers have amended one conspicuous fault of the first edition by providing a Table of Contents. We still, however, look in vain for an index. The illustrations are excellent.

GOVERNMENT PUBLICATIONS

Statistical Abstract for British India (Seventh Issue) ; Volume I, Commercial Statistics. Published by the DEPARTMENT OF STATISTICS. Superintendent of Government Printing, India. Calcutta : 1915. pp. vi, XXIX, 22, Price Re. 1-8, or 2s. 6d.

"Statistics are the straw out of which economists have to make the bricks". In all civilized countries the task of gathering this "straw" is shared between the Government and the public—and rightly so. For while it is true in the main that the Government, in virtue of its peculiar position and the vast machinery at its command, has special opportunities for the collection of statistics, it is equally true that in some cases at least the private inquirer has chances and facilities which a government official can never hope to get. Unfortunately, however, in India the public has altogether failed to contribute anything substantial to the statistical stores—the economist's "straw"—and the latter must perforce turn to the Government for his first indispensable requisite. Under the circumstances it is gratifying to note that the Government at any rate have not failed to attempt the performance of their part of the task, as is indeed fully evident from the large number of statistical publications issued from time to time by the Department of Statistics.

The volume now under review contains a large compact mass of commercial statistics, being in fact a summary, with occasional alterations and improvements, of the first three parts of Statistics of British India as last issued. The ground covered is vast—industries, mills, mines, joint stock companies, foreign trade and shipping, post office, telegraph, railways and irrigation, all claiming their due shares. The introductory report by the Director contains a preliminary summary of the principle items, with explanations and remarks here and there, giving a useful bird's-eye view of the general development under each head.

We have few criticisms to make, and they are not of great importance. We notice, for instance, that the number of years for which figures are given is not uniform in all cases. Would it not be better if a definite number of years, say at least fifteen, as in the Statistical Abstract of the United Kingdom, were adhered

to in the tables as far as possible? Again, it seems to us that the usefulness of the publication could be further increased if its size were reduced from foolscap to octavo, and if more attention were paid to correct printing—there are more than a score of printing defects on the very first page of the report. Careful printing is particularly important in a statistical volume, for harm may result from any shifting of even a decimal place—as we notice here on page iv of the report, where 2127 millions of rupees is said to be paid up out of a total of 269·03 millions (authorised capital and debentures).

The book is published at a reasonable price, and should be widely purchased, for both as a source of material, and for general reference, it will be found to be of the greatest use, alike for the student, teacher and writer on economics

Prices and Wages in India (Thirty-first Issue). Published by Department of Statistics. Calcutta : Superintendent Government Printing, India, 1915. pp. vi, 226, including appendices. Price Rs. 2-0 or 3s.

This volume divides itself into three parts, viz; (I) Wholesale Prices, (II) Retail Prices and (III) Wages. A brief introductory note by Mr. Findlay Shirras, Director of Statistics, indicates the main sources of information in each part.

Average annual wholesale prices, quoted for 24 articles, in the principal markets for each, have been compiled from fortnightly reports submitted by District Officers. Wholesale prices of staple articles of import are quoted for two ports, Calcutta and Bombay. Similar prices for articles of export are quoted on the other hand for Calcutta, Bombay and Karachi, Madras and Rangoon. In both cases statistics have been compiled from market reports of chambers of commerce, and refer to particular dates in March and July of each year. Annual average prices paid by the Supply and Transport Corps for articles of consumption of troops at certain selected stations are also given.

Average annual retail prices quoted for 11 articles, are also based on fortnightly reports from district officers and refer to prices current at the district headquarters. Besides the above there are some other more or less important tables both for wholesale and retail prices. So far as quantity is concerned, therefore, there is abundant material, and to spare. But quality is a different matter, and here we are on debateable ground. We must say that we are inclined to think that except for very broad comparisons, many of the statistics of prices quoted here

are of questionable value. Our reasons are generally similar to those for which Mr. Datta decided not to use them for his Inquiry. Difficulties in defining "grades" of certain commodities, lack of proper supervision over the generally careless subordinates who collect statistics in the first instance, inaccuracies in conversion to standard weights are but a few of the objections which must be borne in mind in basing arguments on these figures. Retail prices have been quoted for articles of food alone, but in order to be of any use in making calculations of, say, real wages other articles of equal importance in an average middle or working-class individual's budget must also be given.

Turning to the Wages Statistics, we find that they are even more open to criticism. They are not only "admittedly incomplete" as Mr. Shirras recognises, but also to some extent misleading. A syce is by no means a typical labourer, skilled or unskilled. Again to make common masons, carpenters and blacksmiths into a single group, illustrative of skilled labour, is, to say the least of it, very much open to objection. Statistics in this part are strongest—but at the same time of comparatively least use—when they refer to certain state and railway establishments, or definite private industrial concerns. Thus, while the present issue marks in many ways a decided improvement over the former ones, there is obviously still room for considerable improvement. Speaking generally we think that the value of this and of other kindred publications would be greatly increased if the sources of information, the methods of collection, and the probabilities of error were clearly indicated.

REVIEWS OF BOOKS

ENGLISH, AMERICAN AND FRENCH

The Effect of the War on the External Trade of the United Kingdom. BY A. L. BOWLEY, Sc.D., Professor of Statistics in the University of London. Cambridge: The University Press. 1915. pp. iii, 55. Price 2s net.

The little book contains the subject matter of four lectures delivered at the London School of Economics in January, 1915. It is a masterly analysis of the effects of the war as revealed in the monthly statistics of the foreign trade of the United Kingdom, which are examined in detail for the period from January, 1906, to December, 1914. Professor Bowley examines in the most careful and detailed way what exactly the foreign trade statistics of the United Kingdom mean and include, and the book would be extremely useful to students for this purpose alone. It also affords an excellent example of the various methods by which statisticians may handle monthly statistics of this character.

The author deals first with imports and exports in the aggregate, contrasting the trade returns of the last five months of 1914 with the same period of 1915. The section on the balance of trade is particularly illuminating. Attention must be called, however to, a misprint which occurs in it on page 15, where the average monthly excess of the value of imports of bullion and commodities is given as £120,000,000, which is ten times too great. In Chapter II, the trade in each of the principal commodities is examined separately; and some striking changes in the countries of origin of imports and the destinations of exports are brought to light. In Chapter III, the changes of aggregate values of trade are analysed into the changes of the prices and quantities of goods, which have caused the changes of value; and the author shows that the changes of value of the imports of many articles

are due in the case of foodstuffs, to a general inflation of prices and in the cases of most raw materials to a depression of prices. In other words the quantities of particular goods imported have changed less than might have been expected. In the final chapter the trade with special countries is investigated ; and the book ends with a very interesting section in which the effects of the war upon British industry and foreign trade up to the end of January 1915 are summarised. The book may usefully be read in conjunction with the paper by Mr. S. Rosenbaum on " The Effects of the War on the Overseas Trade of the United Kingdom ", published in *Journal of the Royal Statistical Society* for July 1915.

On the Relations of Political Economy to War. A lecture by F. Y. EDGEWORTH, M.A., Fellow of All Souls, and Professor of Political Economy in the University of Oxford. The Oxford University Press. 1915. pp. 36. Price 1s net.

Professor Edgeworth's all too infrequent utterances are always welcome, for he writes and speaks with a charm all his own. In this lecture he has been concerned to discover whatever light economics may throw on the causes of war ; and on the attainment of a settlement as a result of war. He observes that wars arise from a struggle to obtain satisfactions, just as economic activities do ; and the fact that the satisfactions aimed at may be honor, prestige, domination or a desire to spread one's own religion or *kultur* does not affect this fundamental analogy. We are all familiar with the fact that if a man badly wants a piece of property belonging to another, and if the latter refuses, or asks a price far beyond the means of the would-be purchaser, the latter may seek to gain possession by force. He will balance his estimate of the risks of suffering bodily harm and of receiving punishment by the law against his anticipation of enjoyment of the commodity. So may international relations often be adjusted by sale or exchange of territory or economic advantages, either before war, or after its occurrence has altered the relative bargaining power of the opposing parties.

Professor Edgeworth applies his well balanced judgment to the contention of certain pacifists that under modern conditions war must always result in a net material loss, even to the victor ; and, though this may prove true of the present war, he doubts if it could be said of the Franco-Prussian War in 1870. Alluding to another pacifist idea—that war will cease owing to the interests of the laboring classes, middle classes, and capitalists respectively in different countries becoming more closely united to the correspond-

ing class in other countries than to the other classes in their own country.—Professor Edgeworth points out that a world-wide war between capital and labour might be more destructive than war between nations.

The most interesting and important part of the lecture, however, is that which deals with the analogy between wars and strikes. In each case the conflict results from the breakdown of negotiations for a bargain between two parties only, and in each case the determining element of competition is absent. When two individuals are bargaining for an exchange the price between certain limits is undetermined by utility or competition; and it is here that skill in bargaining and openings for deception come in. Professor Edgeworth holds that we must recognize the so-called *range of arbitration* on the *contract curve* in relation to a bargain between nations whether the bargain deal with material or immaterial goods. "Upon what principle" he asks "is a point on the indeterminate tract to be selected?" A fact rightly insisted on by Professor Edgeworth is that very generally after hostilities, as well as before them, there still remains an indeterminate field for negotiation for a settlement of terms. Civilized nations are not likely to wage war until one entirely annihilates the other; so that, although the field of negotiation may, as in an industrial struggle, have been greatly changed to the advantage of one party at the expense of the other, they have still to agree (assuming no external compelling force) to some particular settlement out of a wide range of possible terms.

The lecture concludes with the consideration of the best principle on which to base the settlement by negotiation; and we heartily agree with his plea for basing it on an endeavor to attain the aggregate maximum satisfaction of the parties concerned that is, of the peoples at war, and necessarily involved in the settlement. Under the deadlock to which modern warfare tends, as predicted twenty years ago by M. Bloch, there is a large range of settlements which the stronger party would rather accept than continue war, and Professor Edgeworth proposes that: "The sort of deadlock thus presented is to be terminated by a method which is calculated to have further beneficial effects. The rule of maximizing the aggregate advantage requires that each party should attend to the interest and enter into the wants of the other party. There is thus promoted a mutual understanding and such sympathy as is possible between parties with opposed interests and different mentalities."

With this sentiment we heartily agree ; and there is much food for thought in the remarks which the Professor made as to the ultimate force of the Malthusian law and as to the pressure of population on national resources causing wars in the distant future.

There are many stimulating suggestions in the lecture ; and our only regret is that some of the rather abstruse ideas introduced were not worked out rather more fully. We hope that Professor Edgeworth will give further attention to the economics of international relationships.

War and Lombard Street. BY HARTLEY WITHERS. 1915. Smith Elder & Co., London. pp. viii, 171.

Mr. Hartley Withers is a well-known author on financial and economic subjects. He writes in a clear and attractive style, but never sacrifices accuracy for effect. In this, his latest book, he deals with the immediate effects of the outbreak of war upon the credit machinery of London ; and few, if any, authors could have made the intricate subject of high finance so clear to the layman. The world at large was aware of tremendous happenings in Lombard Street and in Threadneedle Street ; it found that the Banks were closed for three additional bank holidays, and then came the issue of hastily prepared £1 and 10s notes. The public also heard that a moratorium was proclaimed, and soon learnt what it meant. In this book will be found the best possible explanation of why these emergency measures were necessary and what effects they had. There are also two most illuminating chapters dealing with the extraordinary collapse of the mechanism of the foreign exchanges, the causes of which Mr. Withers analyses in a most interesting manner.

Persons engaged in commerce or finance in India are sure to be interested in the book ; and it will also be very useful to college students. The results of the outbreak of war revealed to us suddenly the complexities of the money market, almost like a section cut across a living organism. Just as the biologist has learnt much by turning his microscope on to sections of minute animals, so has the economist now had exposed to him a complete picture of the world's financial organism as it existed on the fateful 31st July, 1914.

The book deals not only with the position at that date, but also with the remedial measures taken during the following few weeks in order to preserve British commercial credit--measures which were entirely justified by success.

Russia and Democracy : The German Canker in Russia. By G. DE WESSELITSKY ; with a Preface by HENRY CUST. London : William Heinemann. 1915. pp. viii, 96. Price 1s net.

The author is a Russian publicist well known in London, Paris and Berlin. In former years he became acquainted with Napoleon III and Bismarck, and the latter taught him much in regard to international politics. He is, therefore, well qualified for the task which he set himself of showing in this book how for more than two hundred years past Russia and the Russians have been dominated by Germans. Until recent years all the higher officials of the Russian bureaucracy were Germans, and of Prussian extraction, and had German rather than Russian sympathies. German and French were the official languages of the Russian Foreign Office, and German the sole official language of the Russian Baltic Provinces.

Although Prussia owed her very existence after her crushing defeat by Napoleon I to the Russian Tsar, she has used every opportunity and every artifice to weaken Russia and retain her grip over her. The economic development of Russia has been mainly in German hands ; and extensive colonies of German farmers have been settled in West and South West Russia, where they have had exceptional privileges granted them. In the present war they have been a great source of weakness to the Russians.

The author gives many examples of Bismarck's duplicity towards Russia ; and Bismarck's policy has survived him. So late as 1904, Germany, after having previously guaranteed the integrity of the Russian Western frontier, used the helpless position of Russia engaged in war with Japan, and having an unprotected European frontier, to extort from Russia a very one-sided commercial treaty, which almost amounted, says the author, to a payment of tribute by Russia. There is a great deal of most illuminating information in the book. It should be read by all persons interested in European politics and the causes of the Great War.

L'Emploi des Mathematiques en Economie Politique. Par JAQUES MORET. Paris : Giard & Briere. 1915. pp. iii, 272. Price Fr. 6.

It is good to find that even the present gigantic conflict has not suppressed the energies of French economists and publishers. The author of this useful work on the use of the mathematical method in economics is a civil engineer who also graduated in science and law and is a professor at the famous college of civil

engineering in Paris—*l'Ecole Nationale des Ponts-et-Chaussées*. Nothing is more striking in the history of economic science in France than the frequency with which professors of this college have turned their attention to the theory of economics. They have done so with good effect, almost always recognizing the essentially mathematical character of the science, and its intimate bearing upon the utility and finance of public works. Of institutions in India, Roorkee probably more closely resembles the *L'Ecole des Ponts-et-Chaussées* than any other; but how many of its professors have become mathematical economists, either professionally, or as the hobby of their spare time?

M. Moret's book is a critical review of the work and methods of almost every writer who has contributed to the progress of economic science by use of mathematical methods, from ISNARD (1781) and COURNOT (1838); from the independent writers GOSSEN (1854), JEVONS (1871), WALRAS (1874), and the Austrian School; through the science-building work of MARSHALL (1890), and the abstract work of WICKSTEED and EDGEWORTH, which appeared about the same time, to that of PARETO, IRVING FISHER, and numerous well known modern economists. The book is a most admirable summary of the doctrines put forward by the various mathematical economists, and it deserves to find a place, and to be used, in the library of every college where the pure theory of economics is studied.

Why is the Dollar Shrinking? A study in the high cost of living.
 BY IRVING FISHER, Professor of Political Economy in Yale University, U. S. A. New York: The Macmillan Company.
 1915. pp. xiv, 233. Price 5s. 6d.

This is a reprint of a book written just before the war, and issued in the autumn of 1914, with a postscript referring to the probable effects of the war on prices. Professor Irving Fisher is a well-known authority on the theory of prices, and this little book, which is written in simple language, deserves wide attention in India. The illustrations and statistics are mainly American; but as the book deals almost entirely with general principles which are true at all times and in all countries, this is no drawback. As in all works on economics, so there are a few statements in this book which may still be regarded as controversial by some economists, but it certainly supplies the best answer which economists, can yet give to the question "Why is the Rupee shrinking?" The increased cost of living due to the long continued upward movement of prices has attracted much attention in India; and

many fallacious explanations have been given by public men in India as elsewhere. Even the Report of the Currency Commission does not contain so clear and satisfactory a statement of the causes underlying a general upward or downward movement of prices as is to be found in Professor Fisher's book, and we unhesitatingly recommend it to those interested in public questions. The book should also be of great service in the B.A. classes of Indian Colleges, for which purpose the preciseness of its definitions and its clearness of conception and reasoning have distinct educational value.

The British Coal Trade. By H. STANLEY JEVONS M.A., F.S.S., F.G.S., Professor of Economics at the University of Allahabad, and formerly Fulton Professor of Economics and Political Science at the University College of South Wales and Monmouthshire. London: Kegan Paul & Co. 1915. pp. xii, 876. Price 6s net.

This book is intended to be a popular account of the coal mining industry and of the coal trade of the British Isles, in which special attention is paid to the economic and social aspects. It deals first with the nature of coals and the geology of coal seams. The principal British coalfields are described in some detail as to their geology, history and economic development, the new Kent coalfield having a special chapter. The preparation of coal for the market, and the manufacture of coke and bye-products are described; and subsequent chapters treat of the economics of the coal trade, of the markets for coal, and of capitalistic combinations and amalgamations. There are several chapters dealing with labor questions: methods of paying wages, miners trade unions, the minimum wage act, and safety in mines. The miner's life and work is described, and his housing. The concluding chapters deal with the foreign trade in coal, the possibilities of oil fuel, and the world's coal resources. The author also reviews the "coal question", which was opened by his father's well known book in 1865, in the light of the more ample knowledge of the present day, and concludes that the price of coal will continue to rise, although actual exhaustion of the British coalfields is remote.

Selected Essays of James Anthony Froude, edited, with Biography and critical Notes, by H. E. ROWLINSON, M.A. Longmans, Green & Co. Re. 1. 8.

This selection contains five of the less famous Essays, and may be commended as a supplement to other volumes containing

extracts from his better-known writings. By themselves, however, these five Essays are calculated to produce a false impression of Froude and his work. They reveal his characteristic bias, but they fail to illustrate the polished brilliance of style which so often prevented it from becoming intolerable. Froude's strength lay not in his capacity for abstract thought, but in his felicity of concrete illustration. He was at his weakest when, as in these Essays, he attempted to lend a philosophical foundation to his prejudices. None the less, the editor has performed a useful work in preparing this selection for the use of students. The clear, vigorous style of the Essayist and his sound common sense are not the less evident because the topics with which he deals do not lend themselves so readily to his peculiar habit of mind as the more famous historical matters upon the treatment of which his reputation principally depends. The volume is one which will amply repay careful study.

The War and What After? BY RAYMOND UNWIN. Letchworth, England: Garden City Press. 1915. 63 pp. Price 6d.

Amongst the host of publications on the war and its causes, and the desirable terms of peace, this pamphlet arrests attention by the freshness of its ideas and its vigorous and healthy moral tone. In common with other authors—notably Mr. Lewes Dickinson in *After the War*, and Mr. F. N. Keen in *The World in Alliance*—the author advocates the establishment after the war of an International Authority with the power of enforcing peace. Unlike many writers, he believes—and we think rightly—in the evolution of institutions. An International Tribunal and Legislative Conference having been already established at the Hague, he would have its powers extended, and would have its decisions enforced, and the public peace maintained, by a Union of Powers. If the conditions of Union involved a complete offensive and defensive alliance for the making of war against any aggression, the author is of opinion that the burden to be placed on the individuals of nations joining the Union would be too heavy; so that probably a more effective result would be obtained by a smaller degree of obligation which should secure the adhesion of a large majority of the great nations. Things are tending towards closer governmental co-operation between the Allies; and we hope that one legacy of the war may be the establishment by them of a permanent Council for securing a unification of policy.

Town Planning: With special reference to the Birmingham Schemes. BY GEORGE CADBURY, JUN. Longmans, Green & Co., London: 1915. pp. xvi, 201. Price 7s 6d net.

We welcome a second impression of this important book which was first published about eighteen months ago. Unlike the well known work of Raymond Unwin on Town Planning and which was written for professional men and others making a serious study of the subject, Mr. Cadbury's book is designed to interest a wide circle of readers and to describe in simple language the ideas and advantages of town planning and what has been accomplished in England and elsewhere. The author has throughout taken his examples from the town-planning scheme of the city of Birmingham, in the preparation of which he took an active share. There are a number of other schemes in England which have their own features of interest; but the method of illustrating general principles by dealing fully with a single scheme has the advantage that it lays bare the anatomy of a great town, and teaches us much that could not be learnt about it within a shorter space.

The first chapter deals with the need for Town Planning; and almost everything that is here said of English towns applies with almost equal force to Indian cities—sometimes with greater force. In the second chapter we are introduced more particularly to a general view of the town-planning which has been carried out in and around Birmingham; and the next chapter deals with the preparation of a scheme according to the English Town Planning Act. The two following chapters—on roads and on the allocation of sites as between different classes, residential areas and industrial works, whilst maintaining open space—are full of interest, and should be studied with great care by the municipalities and improvement trusts of Indian cities. The great principle is to lay out broad traffic highways in the directions which the traffic will mostly take, and to construct "secondary" roads for the residential areas, whether for rich or poor. These latter roads should be constructed with narrow carriage ways allowing ample space beside the road and the provision of large compounds without the unnecessary expense entailed by fully-formed roads.

In the later chapters, which deal with the limitation of the number of houses to the acre, the provision of gardens and allotments for growing vegetables near the houses, and treating also of various important social considerations, the economist will find much material for the study of urban economics. Mr. Cadbury's book and two others—the newly issued volume by Mr. Aldridge

on Town Planning, and Mr. Raymond Unwin's work above-mentioned, may be said to form a select library on the subject, which will give the student of town planning a pretty complete understanding of its principles and practice. All patriotic Indians anxious for the future of their country should follow up the instruction gained from Professor Patrick Geddes' exhibitions and lectures by reading these books ; and they could hardly do better than start with Mr. Cadbury's excellent survey of the question as it affects a great English inland town.

The Industrial Development and Commercial Policies of the Three Scandinavian Countries. BY POVL DRACHMANN. Edited by H. Westergaard for the Carnegie Endowment for International Peace (Division of Economics and History). Oxford : The Clarendon Press, 1915. pp. 130. Price 4s. 6d. net.

The present volume embodies the results of an investigation by Povl Drachmann, in connection with the development of industries and commercial policies in each of the three Scandinavian countries, Denmark, Sweden and Norway. The survey is brief and generally does not go farther back than the middle of the 18th century. Starting with a brief description of how matters stood during the time the mercantile doctrines were in vogue, the writer goes on to trace in greater detail the subsequent development of each country right up to the year 1912. To Indian readers the most interesting part of the book will perhaps be that dealing with Denmark, on account of the great preponderance of agriculture in the national economy of that country. The remarkable way in which Denmark was stimulated by the war of 1848-50 to introduce labour-saving appliances and machines, which in turn furnished the basis of a domestic iron-industry, machine shops, foundries, etc., should be a lesson to us. And the whole movement which marks the beginning of the "industrializing of Danish Agriculture"—the transition from the production of cereals to the production of animals and animal products—is full of interest and instruction, not only in itself, but also as illustrating the enormous possibilities of co-operation which has come to be the basic principle of modern Danish agriculture, and has found application in buying and selling as well as in production. The first co-operative dairy was founded in 1842, and the number speedily increased, until it reached 100 or more in 1912. There are, besides, many co-operative slaughter-houses, and export associations. Side by side with agriculture, manufactures have also grown up quite enormously,

and that in spite of the absence of tariff protection. Thus between the years 1909 and 1912 exports of manufactured products increased from 26 millions of kroner to 59 millions—or an increase of more than a hundred per cent in four years. In India during the same period export of manufactured articles actually fell from 382 to 354 million rupees. (A kroner=1s. 1½d. of English money or about 13½ annas). The concurrent growth of agriculture and manufactures in a country which like India, is still very largely agricultural, affords food for reflection, and will not be without some extremely valuable lessons if carefully gone into. The development of Sweden and Norway also has its interest for the Indian reader, but space will not permit a detailed examination here. We can only say that the book will more than repay perusal.

The addition of a preface by the author and a concluding chapter, indicating his main conclusions, if he arrived at any, as to the effects of wars upon the development of the three countries he has reviewed, would have been a useful feature of the book. A short table giving equivalents of Scandanavian weights and measures in terms of those current in the English-speaking countries, more particularly England and the United States, might also have been added.

BOOKS RECEIVED

The following is a List of the books received, other than those already reviewed :—

The Social Problem. By CHARLES A. ELLWOOD. London : Macmillan & Co., 1915. pp. xii, 255. Price 5s. 6d. *net.* (To be reviewed).

Elements of Statistical Method. By WILLFORD I. KING, M. A. London : Macmillan & Co., Ltd., 1915. pp. xvi, 250. Price 6s. 6d. *net.* (To be reviewed).

Economic Cycles : Their Law and Cause. By HENRY LUDWELL MOORE. London : Macmillan & Co., Ltd., 1914. pp. viii, 149. Price 8s. 6d. *net.* (To be reviewed).

Income. By SCOTT NEARING, PH. D. London : Macmillan & Co., Ltd., 1915. pp. xxvii, 226. Price 5s. 6d. *net.* (To be reviewed).

The Theory of Value. By WILLIAM SMART, A. M., D. PHIL., L.L. D., Third Edition. London : Macmillan and Co., Ltd., 1914. pp. x, 104. Price 2s. *net.*

[A new edition of a handy summary of the theories presented in the last century by Menger, Wieser, Boehm-Bawerk, Jevons, and others. It cannot replace reference to the original authorities.]

A History of Economic Doctrines from the time of the Phyroocrats to the present day. By CHARLES GIDE and CHARLES RIST. Authorised Translation from the second revised and enlarged edition of 1913, by R. RICHARDS, under the direction of the late Professor Smart. London : George G. Harrap & Co 1915. pp. xxiii, 672. Price 15s. *net.* (To be reviewed)

History of Economic Thought. A critical account of the origin and development of the economic theories of the leading thinkers in the leading nations. By LEWIS H. HANEX, PH. D. New York : The Macmillan Company, 1913. pp. xvii, 567. (To be reviewed).

The Economics of War and Conquest. By T. H. JONES. London : P. S. King & Son, 1915. pp. xvii, 160. Price 2s. 6d. (To be reviewed).

The Measurement of Social Phenomena. By A. L. BOWLEY. s. c. p. London : P. S. King & Son, 1915. pp. vii, 141. (To be reviewed).

The Distribution of Income. By WILLIAM SMART. London : Macmillan & Co., 1912. pp. xix, 345.

A Text Book on National Economy. (For use in Schools.) By A. C. CLARK. London : P. S. King & Son, 1915. pp. vii 105. (To be reviewed).

Inland Trade, Rail and Riverborne. Published by the DEPARTMENT OF STATISTICS. Calcutta: Superintendent Government Printing, India. pp. xi, 226. Price Rs. 2 (To be reviewed).

Elementary Principles of Economics. By R. T. ELY AND G. K. WICKER. Adapted for English Students by L. L. Price. London: Macmillan & Co. pp. xi, 406. (To be reviewed).

Food Economy in War Time. By S. B. WOOD, S. A. and F. G. HOPKINS, S. C., London: Cambridge University Press. pp. 35. Price 6d. (To be reviewed)

Early Economic Conditions and the Development of Agriculture in Minnesota. By EDWARD VANDYKE ROBINSON, PH. D. Minneapolis: The University of Minnesota, 1915. Large quarto. pp. v, 306. (To be reviewed).

The Growth of currency Organisations in India. By ALAKH DHARI. Bombay: The Bombay Chronicle Press, 1915. pp. lxviii, 190.

[A valuable historical summary of Indian Currency, dealing in the long Introduction with the Report of the Recent Currency Commission and the State Bank project. To be reviewed.]

Indian Banking and State Aid. By ALAKH DHARI. Allahabad: The Leader Press, 1915. pp. 25. (To be reviewed).

English Railways, Their development and their relation to the State. By EDWARD CLEVELAND-STEVENSON. London: Routledge & Sons Limited. 1915. pp. xvi, 332. (To be reviewed).

A Note on the Rise of Prices in India. (Being a review of the report of the Prices Enquiry Committee.) By S. K. SARMA, S. C., Trichinopoly. Wednesday Review Press Limited, 1915. pp. 23.

Principles of Rural Credits. By JAMES B. NORMAN. New York: The Macmillan Co. 1915. pp. viii, 295. (To be reviewed).

The Cost of War. By PROFESSOR F. Y. EDGEWORTH, Fellow of All Souls. Oxford: The University Press. 1915. pp. 48. Price 1s. (To be reviewed).

An Introduction to the Economic History of England. Vol. I: The Middle Ages. By E. LIPSON, M.A. (Cantab). London: A. & C. Black, Ltd. 1915. pp. viii, 552. (To be reviewed).

Address as Chairman of Reception Committee, 30th Indian National Congress, Bombay. D. E. WACHA. Bombay: 1915. pp. 20.

Speech as Chairman of Reception Committee of the First Indian Commercial Congress, Bombay, 26th December 1915. By D. E. WACHA. Bombay: The Times Press, 1915. pp. 7.

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CO-OPERATIVE DISTRIBUTION IN NORTHERN INDIA

A. C. CHATTERJEE, B.A., I.C.S.

REGISTRAR OF CO-OPERATIVE SOCIETIES, U. P.

Even a superficial observer notices a very remarkable divergence between the progress of the co-operative movement in Europe and in India. Co-operation in Europe may be said to have originated with the pioneer distributive store at Rochdale founded by Robert Owen; in Great Britain a very substantial portion of the retail trade of the country is now dealt with by co-operative institutions. Except in Germany and Italy where through the genius and devotion of Raiffeisen, Schultze Delitzsch, Wollemborg and Luzzati an admirable system of credit societies finance agriculture and petty trade, the distributive aspect of co-operative enterprise has been all over the continent of Europe far more important than the credit aspect. In India, on the other hand, the success of credit societies has been astounding. Although we are

only at the threshold of a complete organisation of the whole of agricultural credit in a co-operative form, in 1915, or within eleven years from the passing of the enabling legislation of 1904, the number of primary credit societies was over sixteen thousand and the number of members approached eight hundred thousand. The progress in productive and distributive societies has however been exceedingly small. Leaving out insurance and miscellaneous societies registered under the Co-operative Societies Act, the total number of non-credit societies in the whole of India in 1915 was 175. Of these about half were productive and the other half distributive. Most of the productive societies are agricultural in character. A very large number of the latter are organisations established mainly in Burma for the joint sale of paddy and other agricultural produce. A few in these provinces are interested in dairy products. Of the distributive agricultural societies the most noteworthy are those in Bombay for the sale of fertilisers to agriculturist members. Of the non-agricultural or urban distributive institutions, there were 11 in Madras, 25 in Bombay, 11 in Bihar, 7 in the United Provinces and 18 in the Punjab. It has to be confessed that these figures are almost insignificant when placed by the side of the figures of the credit movement. It is my object in this paper to attempt an explanation of this phenomenon. The conditions in Western and Southern India are in many respects different from those prevailing in the northern provinces, excepting perhaps in the large port of Calcutta. My personal knowledge is also practically confined to the Gangetic valley and adjacent tracts. That is why the scope of the paper has been limited to Northern India.

Co-operation is essentially popular and democratic in its nature. It is a movement for the betterment of the people. "Better farming, better business and better living" is the motto which has been given to the Irish

co-operative movement by its founder. Co-operation can therefore never be successful unless it is taken up and managed by the people themselves. In Europe the initiative in the movement has invariably come from the people. As is well-known townspeople always imbibe a new idea more quickly than inhabitants of rural areas. Co-operative distribution is a more pressing need in urban areas than it is in the villages. Again, except in Germany and Italy where conditions were very similar to those prevailing in India, the existing organisations for the supply of credit were fairly satisfactory in most European countries. Consequently co-operative stores and the co-operative sale of agricultural produce have always received more attention in European countries than co-operative credit. In India the co-operative movement has been initiated and fostered by the State though this very circumstance has probably made the State too cautious, too apprehensive that its aid might overstimulate and create an artificial growth. It has thus in my humble view been the misfortune of the Indian movement that it does not receive in theory at least the same assistance from the State in its higher finance as the sister movements do in all Continental countries. But I am digressing. To return to my original argument, one of the main results of the Government initiative in India has been that the rural problem has been tackled in precedence of the urban problem. The State is directly interested in the improvement of Indian agriculture. The chronic stagnation of the Indian agriculturist, varied from time to time by climatic vicissitudes and acute periods of unemployment, has exercised the Government for many decades past and it was only natural that when the new educative factor of co-operation was discovered, the Government resolved to apply it to the problem of agricultural credit. It was hoped that noncredit forms of agricultural co-operation would

naturally come after the problem of credit had been successfully solved.

In practice also those who are directly concerned in co-operative propaganda find it more or less hopeless to organise noncredit co-operation among the agricultural communities until they have been taught to combine for securing credit facilities. The most pressing need of the agriculturist at the present moment is how to carry on his existing business without gradually sinking into a condition of virtual serfdom to the moneylender for himself and his entire family. Once the cultivator is freed from bondage to the moneylender for his current requirements he naturally begins to look about and to seek new and improved methods of developing his business. Then is the time for him to think of better farming and better business. This stage is already being attained by many of our more vigorous societies and a great deal of distributive co-operation is now undertaken in many tracts of the United Provinces in a rudimentary and empirical form. In the course of a few years we shall acquire sufficient experience to go forward with confidence and the work will not only be regularised and appear in the annual statistics but will assume very formidable proportions.

In the rural tracts I conceive that the main function of the co-operative movement for many years to come will be, after the supply of credit, the supply of requisites for agriculture. Later will follow the joint sale of produce and then probably at a long interval there will develop the business of the supply of nonagricultural commodities that are consumed by the rural population. I do not propose in this article to deal with credit work. This aspect of the co-operative movement is already familiar to most students of Indian economics and the recent report of the Maclagan Committee gives an admirable resume of the principles and methods of the work.

Nor do I wish to deal with the productive branches of agricultural co-operation or with the distribution of non-agricultural commodities in rural areas, for, as I have indicated, these branches will take time to develop and do not require immediate consideration. The supply of agricultural requisites is already attracting much attention in many parts of the country and as credit societies are becoming firmly established, the organisation of agricultural supply societies will have to be undertaken in right earnest. I shall, therefore, discuss in some detail the scope of this branch of the work and then place before the reader some considerations with regard to the development of distributive societies or general stores in urban areas.

In the matter of the organisation of societies for the supply of agricultural requisites co-operators are naturally guided by agricultural experts. The last annual report of the Director of Agriculture of the United Provinces will indicate that the three main requisites for the improvement of our agriculture are the supply of better seed, reliable and improved facilities for irrigation, and the supply of fertilisers. Afterwards one hopes will follow the supply not only of improved hand implements but of power machinery.

Now with regard to seed we have already gained a certain amount of experience. The urgent necessity for the improvement of their seed supply is keenly felt by cultivators all over the province. Much of the lending in the villages is confined to the supply of seed, particularly seed for the spring crop, by the rural moneylender to his customers. The usual practice is for the moneylender to lay in a stock of seed grain after a good harvest when prices are low. He lends it out in the beginning of October in small quantities to numerous cultivators. The understanding is that the borrower will return it at harvest time with an addition of twenty-five

or fifty per cent. The account is kept in measure of grain. If the borrower cannot fulfil his obligation the transaction is either carried over to the next year with a further compound addition of twenty-five or fifty per cent or is commuted into a cash loan. After the harvest collections the moneylender sells off as soon as prices are good the extra twenty-five or fifty per cent, stocks the remainder and trades with it again in the next sowing season. He thus combines the business of seed supply with a certain amount of speculation in the grain trade. There is, however, no attempt on his part to sift or grade the grain he receives at harvest time. No seed testing of any kind takes place. The methods of storage are primitive, though in ordinary seasons fairly efficient. The cultivator when he borrows the grain at sowing time has absolutely no choice with regard to the quality of the seed that he gets. If the preceding harvest was unsatisfactory the seed is generally very poor in quality. This actually happened in many tracts during the sowing season in the autumn of 1915. In more than one district members of credit societies have complained bitterly of the defective germination of bazar seed which had suffered from excessive moisture during the latter part of the previous spring. After a famine the moneylender or seed dealer often refuses to advance grain except at prohibitive prices. I need not refer to comparatively trivial details like giving short weight in sowing time and exacting excess weight in harvest time or the levy of straw, etc., from the borrowers.

We first of all experimented with a number of credit societies where the members, instead of taking cash loans, borrowed seed grain on the *Sawai* or *deorhi* (25% or 50% extra) system sketched above. The original stock of seed was obtained either from a farm belonging to the agricultural department or purchased with the assistance of agricultural officers. The experiment naturally failed.

The societies had no money to put up sheds or godowns, there was considerable wastage, and after bad seasons the grain obtained in repayments was unfit to be used as seed. Co-operative societies naturally could not imitate the methods of the dealer who would have mixed some good grain with the bad and passed off the mixture as seed grain. The members knew too well where the seed came from. In consultation with agricultural officers a new plan has been devised and is being gradually worked out in different areas. A credit society or a central bank obtains a supply of approved seed through the agricultural department. It is sold at market rates or at something above cost price to selected members living within a convenient distance of the centre of distribution. Only such persons are supplied as are known to be good and careful husbandmen and the cultivation is supervised by trained officials of the Agricultural department. When the crop is harvested it is cleaned and graded and after the seed is passed by experts it is bought back by the bank or society at a slight premium over market rates. Adequate arrangements are made for storage in specially constructed godowns. In the following sowing season a limited quantity is again sold to selected members while the bulk of the stored seed is disposed of at market rates to the general body of members. The distributing agency stipulates to buy back the produce of the selected cultivators if it prove to be of sufficiently good quality. The general body of members is permitted to dispose of their produce in the open market. All transactions are in cash. If a member has not enough ready money to buy seed grain he has to take a loan from his credit society. With this system the results so far have been satisfactory although the depots or agencies have not made any substantial profits. But as there is very little risk in the business, profits are only a secondary consideration. The cash system will enable the agencies to import fresh seed

whenever necessary either from a recognised or Government farm or from another area. It is not necessary to weary the reader with particulars of the different types of seed which are being improved or popularised in this manner. Special details of the work that is going on in the central portions of the province will be found in the note of Mr. Burt, Deputy Director of Agriculture, which is appended to the Annual Report of the Department of Agriculture for 1914-15. Reference may also be made to the Proceedings of the Board of Agriculture at Pusa in February 1916 and of the United Provinces Co-operative Conference, 1916.

So far the work has been undertaken mainly by central banks and credit societies as a separate department. But I look upon this as only a transitional stage. As soon as sufficient experience has been gained we hope to establish in convenient centres in each area separate seed supply societies. Such societies will have as members both ordinary credit societies and agriculturists, mostly small landowners who do not belong to any credit societies. The seed supply society will either maintain a farm of its own or grow seed in the fields of selected agriculturists in the manner already outlined. It will maintain an expert staff to supervise cultivation and to sift, grade and test the seed grown by itself. It will buy or import seed from outside whenever desirable. It will maintain proper store depots. It will sell the seed primarily to its own members including members of the credit societies. A credit society will under such circumstances merely pool the requirements of its members and charge a small commission to cover incidental expenses. One such supply society has been already established and one may be permitted to hope that this society will pioneer a complete revolution of the entire system of seed supply in the province.

Next in importance in the development of our agriculture come enhanced facilities for irrigation and the correlated question of drainage. As the readers of this journal are aware an increasing tract of country is every year served by public irrigation works, either from the snow-fed rivers or from large storage tanks where rain or drainage water is caught and utilised. But there are many small irrigation works which cannot very well be undertaken by a State department. For instance so far little attempt has been made in this province to utilise the water of the smaller rivers and streams. A very promising experiment is now in progress in this direction. Arrangements are being made for pumping water from the Gumti at a place in the Sultanpur district for distribution in the fields of the members of two or three adjacent credit societies. In this experimental undertaking the Government in the Agricultural department is bearing the initial cost which will be realised in instalments from the societies. The latter will levy a rate from each member according to the area irrigated. If the experiment proves successful, as we have reason to hope it will, there is every prospect that we shall be able to organise water supply societies in suitable tracts for the pumping of water from rivers, streams, and large shallow lakes and supplying the same to agriculturists who may or may not be members of credit societies. The organisation will of course be simpler if all members of the water supply society are also members of credit societies, for then the collection of the dues will offer no technical difficulties. Similar organisations will also be feasible in the case of pumping installations attached to wells with a large supply of water, especially tube wells, in tracts where such wells can be sunk with advantage. It is not possible for individual agriculturists very often to undertake the cost of a pumping installation, but there

is no reason why a number of them should not combine for the purpose. The idea is already catching on in some of the western districts, *e. g.*, Bulandshahr, and although the pioneer work there in this direction is being performed by credit societies I hope that in the near future societies with the sole object of the supply and distribution of water from wells will also spring up.

In the matter of both water supply as well as drainage it is just as well, however, to remember the limitations that are imposed by the constitution of the existing co-operative societies in the province. Owing to the joint and unlimited liability of the credit societies such landlords as can obtain credit for their own agricultural operations at fairly low rates of interest do not join the societies and at present most of the members are only cultivating tenants. The existing law with regard to tenant right practically precludes such members from investing any large sums in works on which the returns will come only gradually and must be spread over a long series of years.

In the province of Agra only a fraction of the cultivators enjoy an occupancy right and even in their case the right is not personal but attaches to the plot. Thus the average occupancy tenant has a fairly large nonoccupancy holding in addition to his occupancy holding. The size of the occupancy holding is usually too small for the maintenance of the tenant's family. Consequently in order that he may not be deprived of his nonoccupancy land the occupancy tenant has to consult the wishes of the landlord with regard to permanent improvements even in the occupancy plots. In nonoccupancy plots the previous consent of the landlords is imperative. As the law stands the landlord has to reimburse the tenant the cost of all improvements in occupancy land should the latter be ejected.

from it for any valid reason. The average landlord does not look with any favour on the growth of occupancy rights in his property and seeks all lawful excuse to convert occupancy into nonoccupancy land. It is, therefore, easy to imagine how very difficult it is for a tenant even though he may possess a few occupancy plots to undertake permanent improvements like the sinking of wells or the construction of drains and proper embankments. In Oudh the conditions are if anything worse. There the bulk of the cultivators are what are called "statutory" tenants. They have an assured tenure for seven years only, a period much too short for any real improvements. The landholding body is exceedingly powerful, and it is impossible for any individual tenant to defy his landlord. Of course the evil would not be serious or would not exist at all if the landlords in both provinces considered it either their legal or their moral duty to undertake permanent improvements in land actually cultivated by tenants. A great many landlords undoubtedly spend money on improvements in their own *sir* lands or home farms, but instances of improvements in tenants' farms are altogether negligible.

With regard to the supply of fertilisers it has to be confessed that nothing has yet been done by our co-operative societies. Here also the question of tenant right creeps in, for so far as I know in most cases the results of chemical fertilisers are cumulative, and one cannot expect a tenant at will or the Oudh statutory tenant or even an occupancy tenant who has a large area of non-occupancy land also in his cultivation to sink money in improvements of which he may not reap the benefit. But we were also waiting for a lead from the agricultural department with respect to the most suitable fertilisers that can be utilised having regard to the means of the cultivators. Very recently valuable advice on this point has been given by the Hon'ble Mr. Hailey,

Director of Agriculture, at the Co-operative Conference held at Lucknow in February. I have little doubt that when the seed supply societies which I have sketched above are fully organised, and when the credit societies have accumulated enough capital of their own to be able to lend more freely and at reduced rates of interest, approved fertilisers like oilcakes, bonemeal, etc., will be stocked by the seed societies and sold to the cultivators at reasonable rates. The supply will be obtained either wholesale from regular manufacturers or the seed societies themselves will make the necessary arrangements and put up plant for the manufacture of such fertilisers.

There remains the consideration of the supply of implements and machinery. Already several of our central banks stock improved implements like the Meston plough, different kinds of harrows, etc. In some of the eastern districts where inferior types of the sugarcane press are still in vogue the banks are popularising efficient roller mills. This branch of the work can develop only slowly and it would be a mistake to force the pace. The sale of cheap and efficient implements is bound to be one of the main functions of the supply societies that have been mentioned above. Power machinery like steam threshers presents a more complicated problem. It is a question how far in the present stage of wages for agricultural labour it is economical to substitute machinery for human labour. Wages are however steadily rising, and where bullock power is used, as in many agricultural operations, the price of cattle and the cost of feeding them are already heavy burdens on the agriculturist. The problem of the substitution of machinery for human and animal power will have to be worked out with care, as it is already being done, on Government experimental and demonstration farms. As soon as the economic necessity has been demonstrated it will be for the co-operative organisation to devise means to enable the

small agriculturists of the country to adopt the necessary changes. There is little doubt that with the development amongst cultivators of feelings of solidarity and the habit of common action that will be the result of the credit and supply societies it will not be an impossible task to enable them to utilise machinery where absolutely necessary.

In this connection it may be permissible to refer to the supply of draught cattle for the use of agriculturists. Bullocks are among the principal agricultural requisites in Northern India. In recent years the price of bullocks has gone up considerably, though since the outbreak of the war it has been more or less stationary. It cannot be said that the rise in price is due to a falling off in the supply but it is mainly to be ascribed to the enhanced cost of breeding. The subject is felt rather acutely in our credit societies because a very large proportion of the loans at present advanced to members is for the purchase of cattle, and any decrease in the amount lent for cattle will set free a corresponding sum for investment in improvements. The problem is being attacked in different directions. Efforts are in progress for the establishment of cattle insurance societies which will recoup to members a substantial portion of the value of cattle that may die prematurely. Home breeding is being encouraged by advances for the purchase of cows which in the absence of pasture grounds will of course have to be stall-fed. With assistance from the Government and the district boards, societies have commenced to maintain bulls. What is more interesting in view of the special subject of this article is that in many localities members of societies have combined together and pooled their needs for plough cattle. Representatives have been sent to the large cattle fairs and breeding areas to select suitable animals at wholesale prices for distribution among the members. The ex-

perience gained has been satisfactory and in all probability the practice will develop in future years.

I shall conclude this article with a few remarks on the subject of co-operative distribution in towns or urban areas. So far our efforts in this direction, at least in the United Provinces, have not been crowned with any great success. We have experimented with stores for the supply of raw materials for some particular trade, *e.g.* yarn for weavers. We have also experimented with general stores of different types, supplying mainly articles of everyday consumption among the middle class population. There are certain common difficulties that have to be encountered in both kinds of organisation. The stores have to compete with the bazar trader or dealer. It has to be noted that conditions in the retail trade in India are radically different from those now prevailing in Europe. The petty trader in India generally has to pay very small rents and rates compared with his European brother. The whole family give their labour to the shop and in calculating profits the shopkeeper hardly ever takes into reckoning the wages of such labour. The business is handed down from father to son, and apart from the mutual faith that is engendered by this circumstance there is very intimate mutual understanding as well. On the other hand the organisers of a store have as a rule practically no previous business training. They are usually ignorant of the fluctuating conditions of the market and in nine cases out of ten they do not even know whence to secure their wholesale supplies. In distributive work voluntary service, which is our greatest asset in the credit movement, is inefficient and also the work is uninteresting and uninspiring to the workers themselves. A paid staff has to be employed and often proves dishonest as well as uneconomical. There is further the difficulty of credit sales. It seems to be

an instinct with our people, whether rich or poor, educated or uneducated, never to pay cash if credit is to be obtained anywhere. All our earlier general stores started with a heavy handicap in the way of large credit sales; realisations, once credit has been given, are naturally far more difficult on behalf of a corporation than of an individual. There is further the consideration of the large variety of goods that has to be maintained in a general store in order to attract customers. When fashions change, a good portion of the stock has to be scrapped. After careful inquiries and mature deliberation I have personally come to the conclusion that in general the margin in the price of articles of town consumption between wholesale and retail trade in Northern India is so narrow that the development of a co-operative system of distribution is by no means an urgent necessity. I am free to confess that my view is not shared by all co-operators some of whom have perhaps a better authority to speak than I have. But in the present economic stage in Northern India I would certainly predict failure in all co-operative stores unless certain main conditions are satisfied. The foremost among such conditions is that all sales should be in cash, so that the store will be saved interest on capital and also the trouble of collections on account of credit sales. The second condition is that the articles stocked should be more or less of a standard pattern not subject to fluctuations in demand on account of changing fashions. This condition is fulfilled only if the members are recruited from a more or less homogeneous body who band together for the common supply of standard commodities of good quality at a reasonable price. The third condition that I would insist on is that the members should devote a certain portion of their time to the business and not depend entirely on paid labour. If these conditions are fulfilled

there is no reason why a co-operative store will not be successful. The members may not make large profits, but they will secure goods of a reliable and uniform quality which is after all the great desideratum in this part of India. Some promising stores on these lines have been started in this province in the last year or two among which I may mention the Lalimli Stores for the operatives of the Cawnpore Woollen Mills, the Mirzapur Stores for the middle class inhabitants of that town and the Hindu Boarding House Stores at the Macdonnell Hostel at the Allahabad University. Others of a similar type are likely to be organised in the near future, and it is hoped that the experience gained in these institutions will enable co-operative distribution to be undertaken on a larger scale and in a wider field in the Province.

THOUGHTS ON INDIA'S ECONOMIC POSITION

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A great war like the present in which nearly the whole of Europe is engaged, and the main issue of the conflict is the greatest menace to civilization of which history has to tell us, could not fail to have far-reaching effects on Indian life and activity in every aspect. But situated as we are far from the scenes of actual battle, and protected by the invincible might of the British Navy, India has been only distantly touched by the present war. India has willingly shared in the Empire's burden in this hour of struggle, and her troops have been freely employed in the battle-fields of Europe and Asia: the common danger has stirred her deepest springs of Imperial loyalty, and comradeship in actual warfare has touched Indian hearts with a new pride and glow. But considering the titanic character of the conflict and the enormous magnitude of the expenditure daily incurred, India's share in the sacrifices of the war cannot be regarded but as small. The very modest changes proposed in regard to taxes in our budget this year, a year likely to record the intensest phase of the war, is the most conclusive proof of the small scope of the economic disturbance caused by the war in this country—and for a part at least of the enhanced taxation causes other than the War are responsible.

But the War has brought other and deeper lessons to this country. It has been said by an American thinker that the great lesson of the War to the Allies is to show the destiny of a people unprepared for war having to sacrifice myriads of lives and millions worth of property while engaged in the task of preparation. Governments that have not schemes of co-operation ready beforehand have to pay a heavy price for the lack of wisdom and prudence in their statesman. India too was unprepared for the War. She had no schemes of co-operation that could enable her to make any use of the changed international economic situation, she possessed no equipment to adjust herself to the new conditions. India has presented during this period a most deplorable picture of what economic passivity means. And, unless India puts forth her best energy and thought to face the problem, her position will be worse in the great industrial conflict which must follow with unprecedented rigour and severity on the conclusion of peace.

It is well that a commission of enquiry into our industries has been appointed though it is to be regretted that its scope has been unduly limited. India cannot afford any policy of mere drift in her economic upbuilding, her position demands a most careful survey in the light of international facts, and her problems require a bold and determined handling on a clear and unbiassed perception of her possibilities. In the opinion of the present writer, in our discussions on economic matters there has been much undue indulgence in optimism induced undoubtedly by the myth of our historic wealth, and by a natural though hardly pardonable national vanity. The character of the present world economy has been missed, and there is considerable danger that unless facts are courageously faced and intelligently made the basis of well-defined future action, our economic destiny would

stand recorded in a dark short page in the history of the world.

An endeavour is made in this paper to direct attention to some of the broadest aspects of our economic possibilities, and we may approach the subject by attempting to answer the question—Why this extreme unpreparedness to adjust to the new conditions caused by the war? To answer this question properly would involve the writing of our history from a particular point of view for the last hundred years or more and the making of a comprehensive study of our economic resources. But an answer in the rough would be something like this :—

(1) As a people, on account of causes partly innate to our character and partly historic, we are lacking in qualities most essential for *modern* progress. A competent and sympathetic critic has said that Indians hesitate when they should act. We are lacking in self-confidence and the dash and audacity that are necessary for and ensure success. Our character is inadequately endowed with energy and initiative; we want in effective action and decision. Our racial characteristics, however, suitable to an older age, spell failure in the present day world economy based on competitive strife and go-aheadness. Several profound students of Indian history and watchful observers of our ways and institutions are of opinion that these defects in our national character have become accentuated during the last century and a half: it is the inevitable price we had to pay in the early stages of the establishment of a powerful and beneficent rule from without securing real calm and peace perhaps for the first time in the history of this land. But there are signs that India is recognising the meaning of national manhood, and the great enthusiasm which the plea for increasing self-government, voiced by Lord Hardinge in such potent accents, evoked through-

out the land is undoubtedly motivated in the growing realization of the virtue of self-reliance. There is no doubt that in the world's great economic conflict, and this is greater than the conflict of any wars, for these are passing events howsoever titanic and long drawn out, national manhood with all the resoluteness, resource and initiative which it signifies is of the first moment, and we who are not gifted by nature with any very rich resources cannot lay this lesson too nearly to heart.

(2) The general poverty of the people is another obstacle in the way of our quick adjustments. Poverty may not be a sin or a crime in the moral sense, but it requires very small reflection to show that it means economic death. Poverty means living from day to day, from hand to mouth. Expressed as lack of capital, which is the most significant factor in modern production, it means lack of tools and machinery, and all that industrial organization signifies. Interpreted in another way it means being at the mercy of nature, and one has to supply but a few links of facts to see that in India that means devastation when the monsoon fails and famine conditions establish themselves.

These results are serious enough in themselves, for they forbid progress and intensify misery, but their effect is not seen in its full scope until we realise that we are placed also at the mercy of organized capital abroad. It is the saddest aspect of our economic situation: our industry is totally unorganized to withstand the shock of changes in world conditions, we have passively to bear the effects of capitalistic developments abroad without any effective voice of our own. The stories of our indigo and sugar industries form dark but significant chapters in the economic history of a people unprotected by the force of capital and organization. The present war has shown how, while the United

States of America and Japan have achieved new and noteworthy developments in their industry, India has been a helpless recipient of such goods as they choose to offer in her markets.

Our poverty is a fact admitted by all publicists and economists. Estimates of annual income per capita vary, but the most optimistic figures place it at no higher than *thirty rupees* per head. The average income per head has remained the same too during the last thirty years and more—between the estimates of the Strachey and Caird Famine Commission and Lord Cromer (then Sir Evelyn Baring) in the early eighties to those of the eminent statisticians Sir Robert Griffen and Sir Patrick Playfair in more recent years. It is a fact that deserves careful study at the hands of our students that with signs of growing prosperity everywhere, with an undoubted advance in the whole apparatus of industrial life, the average Indian income has remained stationary. How far this fact involves that a vast proportion of our population can have taken no share in the general urban rise in India, and how far in view of the undeniable fact of large increase in price it probably has entailed some depression in the economic status of her masses—these are enquiries that must present themselves to every student of economics in this country, and thoughtful Indians have not been able to interpret their bearing in a sense favourable to the country's prosperity. The problem seems one of hard arithmetic, though statistics may have much light to throw in softening its extreme apparent rigour.¹

It is instructive to remark that while in India the average income has shown no signs of appreciable increase during the last thirty years that these estimates have been under discussion, in England according to

¹ In a future paper the present writer proposes to develop this subject.

recent figures the average income per head is £45—twenty-three times the Indian average—and according to well known authorities it records a five-folding in about three generations, a period of about seventy years. The growth of income in big industrial countries other than England has been equally remarkable, and this growth in those countries has been accompanied by a no less significant increase in population.

It is a fact then that in the midst of a rich world which is fast advancing, India stands a poor country with nearly stationary earning power. Exact estimates of national wealth or earning power cannot be made, we have no census of production yet, much less a comparative census over different periods. Statistical work of this kind has been only recently devised, but England has introduced it now in full working order—and there is much to be said for obtaining accurate records of production in this country, where the best possible information is necessary not only to determine the exact measure of our weakness in the various fields of activity, but to help in facing the imperious necessity of building our economic strength without mistakes.

Poverty, grinding poverty, is a tremendous fact of our economic and therefore national position, and it is to the mind of the present writer an immeasurably more potent fact than even the ignorance and illiteracy that prevails amongst our masses. This poverty exposes us to the havocs of disease and pestilence, famine and plague; and it makes advance at every step difficult. In a recent book the effect of poverty in *England* is thus described: "We pay for it in infantile deaths, in the crippled and damaged bodies of the children who survive, in the inadequate return we get from the expenditure on education, in the creation of unemployables, in sickness and loss of work, in consumption and other diseases, in pauperism, in the cost of public

and charitable institutions for the support of the sick, the poor and the insane, and in the incalculable loss of industrial and mental efficiency." If that be the effect of poverty in England with over twenty times the annual income per head that we have we can easily picture its effects in India.

Poverty and ignorance are very closely allied. It is said that development of mass education is the one sure and certain remedy for prevailing poverty in India. That is largely true. But to take an example: the *mali* (gardener) in the college garden, the *chaprasi* (peon) in the office earn four times the average Indian income, and more than five times the average of the non-income-tax-paying and similar people. Unless these well-placed individuals have a family of a wife and three or four children, they do not represent the ordinary poverty of even the earning members of the community, and there are of course millions below this line. Not much reflection is needed to show how pointless education must be to people on this plane, and further how difficult financially must it be for the Government of such people to provide extensive mass education. Poverty and illiteracy are near related to each other, and they act and react upon each other, but they mark and control the rate at which we can move forward: they prove how fanciful any pictures of rapid economic advance for this country must be. They also strike sadness in thoughtful people who labour to study problems here and are fully apprehensive of conditions in other countries.

For purposes of comparison, a few tables are given below that are instructive:

Mrs. Reeves in a recent pamphlet incorporating the results of a three years' investigation into the living condition of the poor in certain districts of London has given some actual budgets. We reproduce below

the actual budget of the family of a railway carriage washer earning 18s one week and 21s the other, and having a family of a wife and three children:

				s	d	
Rent	7	0	} s d. 12 11
Clothing club (for two weeks)	...	...	...	1	2
Insurance (for 2 weeks)	...	...	...	1	6
Coal and Wood	...	...	...	1	7
Coke	...	...	...	0	3
Gas	...	...	...	0	10
Soap, soda	...	...	...	0	5
Matches	...	...	...	0	1
Black lead, blacking	0	1	} Food s d. 8 1
11 Loaves	...	...	...	2	7
1 Quartern flour	...	...	...	0	5½
Meat	...	...	...	1	10
Potatoes and greens	...	...	...	0	9
½lb Butter	...	...	...	0	6½
1lb Jam	...	...	...	0	3
6oz Tea	...	...	...	0	6
2lb Sugar	...	...	...	0	4
1 Tin Milk	...	...	...	0	4
Cocoa	...	...	...	0	4
Suet	...	...	...	0	2

Mr. Snowden observes on this budget: "Average per head for food 1s 7½d a week, or less than 3d a day all round the family. But a working man cannot do on less than 6d a day which means 3½s a week. This reduces the average of the mother and children to 1s 1¾d or less than 2d. a day."

Life under such circumstances means: "The husband has not one penny for any indulgence; there is nothing for mental or physical recreation; civilization, science, invention, and progress are no more to these people than they are to the uncultured savage. An examination of the items of expenditure will show that the food which was obtained has a very inferior dietetic value. This family, typical of millions in this country, is being starved physically and mentally."

According to Mr. Keatinge in his very careful work on Rural Economy in the Bombay Deccan the normal

rate of wages for a field labourer engaged by the year works out as follows:

	Per mensem.				Per annum.		
	Rs. a. p.				Rs. a. p.		
6 Pailis Jowar	}	...	3	0	0	...	36
1 Seer of Salt							
2 Seers Dal							
¼ Seer Chillis							
Money wages	...	2	8	0	...	...	30
Clothes	8
Holiday Food allowance	1
							75
							8
							0

Mr. Keatinge's figures represent the income of a family and they fairly supply the place of a family budget. The figures are instructive for comparison with those of the family studied by Mr. Reeves and the work of interpretative comment might be left to the reader. This is a picture of literal starvation mentally, and all but so physically; it can represent the life of no unit of civilized humanity.

3 India still is practically at the agricultural stage of economic development, though urban India has undergone a considerable economic transformation. But agricultural economy is unsuitable to a country like India with her present population and the length of industrial life. It has been said that the wealth of great modern states is the result of freeing labour from work upon the land. Agricultural economy is consistent with prosperity only in the case of new communities freshly establishing on large undeveloped parts of the world, in the early stages of their nation building. Theory can easily define conditions in which a country may be relatively wealthy though devoted mainly to agriculture, but even in countries where such conditions are realised it is desirable that what is called a "balanced economy" should be encouraged as early as possible. Theory also tells us that in young and pushing agricultural com-

munities enjoying normal health, by the very action of increasing population and the tendency to diminishing returns the foundation of manufacturing industries must growingly become profitable, while as a matter of actual experience, such communities have always nursed their new industries carefully by means of protective tariffs and direct subsidies. That India with a population of over 300 millions is still at the primitive stage of agricultural economy is a unique fact in world history, and is at once an explanation of her poverty and a sign of disease in her economic constitution. It marks, if nothing else, a readiness on the part of her people to increase population howsoever hard laws of nature may be pressing against them, a passive willingness to accept the lowest possible standard of life for themselves. Indian population grows, her earning power per head is stationary, such increase in her industries as has taken place is nothing compared to the growth of her population. The inference is irresistible: life in India continues on the lowest plane untouched by all the movement and progress that is in the air. The people of India are totally oblivious of the economic destiny such life embraces, and of the consequence on efficiency and productive power this low satisfied life entails. Well might it be said to a race that ages ago adopted the philosophy of suppressing desires and annihilating wants that true economic philosophy requires her to-day, if she wants to live, to develop wants and refuse to accept for herself a fatally low standard of living.

It would be readily seen that while Canada and Argentina can be very wealthy and prosperous as agricultural communities, to an old civilization mainly agricultural economy must mean a condition of natural poverty. Canada with a territory with 3·7 million square miles has a population of 7½ millions only with an average density of about 2 per square mile, Argentina has

an area of $1\frac{1}{2}$ million square miles with a population of 7 millions. India on the other hand with an area of 1,833,000 square miles has a population of over 315 millions with an average density significantly varying between Native States and British India, being about 225 per square mile in the latter to 100 in the former. India cannot be compared with these countries at all. In this matter the most fruitful comparison would be perhaps with France and Germany with relative densities of about 200 and 300 each, who support their population so largely on the wealth of their factories and non-agricultural industries.

Agriculture is India's chief and preponderating industry. Very nearly 70 *per cent* of the population depend entirely upon agriculture for the support of their life and this fact dominates our whole economic life. It determines in an extraordinary measure the whole course of the trade and industry of the country. The prosperity of the country is essentially bound up with the prosperity of agriculture, and when we remember that this depends upon the very uncertain factor of timely and adequate rainfall, that land in India is held in small and scattered pieces, that the peasant in India suffers from indebtedness even more than his European brother, for of course agricultural indebtedness is a universal phenomenon; that partly because of his want of capital and partly because of his utter illiteracy he follows still the methods of a thousand years past—and yet on this peasant at the mercy of the uncertain monsoon the trade and industry of the country depends—we can form some idea of the difficulty of India's economic problem. Rightly since the memorable declaration by the Strachey Famine Commission of 1880 “diversification of industry” has become the most important item in all plans for the improvement of our economic position. In the meantime it is necessary

to remember that agriculture does to-day and must continue to do so for a considerable time *if not for ever* condition the course of our trade ; and every step to improve the methods of agriculture, to make the agriculturist more efficient by lessening his debt and increasing his knowledge and combating the sternness of nature by means of protective works is a gain not merely for our greatest industry, but for those also that we wish established for the sake of a healthy and harmonious development all round.

As it is, India stands alone in the countries of the world with such density of population as an agricultural economic community. India was, therefore, but ill prepared to appropriate any part of the new trade and industry made available by the diversion of economic activity from Europe's busy factories, in competition with America and Japan with their better equipments and more balanced economic development, in spite of the fact that India is as practically free from the effects of war as those countries. In the Review¹ of the Trade of India for 1914-1915 we read on page 14: "The supply of articles of import, such as glass and glassware, watches, cheap cotton hosiery, etc., were affected by the outbreak of war, and as these articles were also made in India, steps were taken in some provinces to investigate the possibilities of developing these local industries, or of opening new industries. Among the industries so investigated, were those relating to glass, hosiery, wool, brass, and copper, pencils, soaps, watches, chemicals, paper-making, leather, dyeing and calico printing, and oil seeds." Thus ends the abrupt paragraph. The Director of Statistics has nothing to tell us as to the results of these investigations, though an account of the possibilities of developing existing industries or opening new ones would obviously have

¹ By Mr. G. Findlay Shirras, Director of Statistics, published by the Statistical Department of the Government of India.

formed a most helpful and instructive chapter in any Review of Trade. The account it is feared would have been little encouraging, for another year has rolled away since the facts of this Review, and every student and merchant knows that it records but little advance made in India in any of these industries—though in some directions a rise of prices has brought greater profits, and it marks only an increasing stream of imports from Japan and America. Japan in particular has shown during these eighteen months a wonderful capacity for quickly adjusting her productive power to new conditions, due partly to her available natural resources, and partly to her general industrial equipment, but mainly to the ready resourcefulness of her people aided at every step by the State. On the other hand the people of India, as Sir William Clark, the retiring Member for Commerce, said in the Imperial Council recently “are lacking in education, organisation and enterprise, efficient labour, skill and capital,” while the Government of India lacking in fiscal autonomy is unable even to investigate the industries that may be supported by protective measures. The result is obvious.

Hitherto we have considered defects in national character and the unhealthy nature of our economic development as the essential causes that have prevented our sharing in the economic fruits of the present war, though we have barely been touched by the war directly and have lived in the utmost enjoyment of peace and normal life. Let us turn now to a consideration of some of the broadest facts about our natural resources.

It is a commonplace of English economic history that English prosperity dates from the middle of the 18th century when her coal seams were unlocked and her iron industry placed on a new and modern basis. And it is Britain's earlier use of these secrets of economic

wealth that gave her that leadership in industry which has been threatened only during the last twenty-five or thirty years. Coal and iron are the two bases of modern economic strength. Wealth in these resources means power and prosperity, poverty in these means stagnation and misery. The story of economic rivalry between nations, during the last half century or more, is the story of the rate at which these two fundamental basic factors of industry have been discovered and utilized.

Possession of coal in particular as the source of power gives exceptional advantages that cannot be shared by countries which are poor in this mineral. Coal does not bear easy transport on account of its bulkiness, and industries must centre themselves round coal mines. Industries cannot be built up on coal that has to be imported, since in the nature of things they must go to coal. This fact alone would account for the industrial backwardness of countries like Spain and Italy with little or no coal resources. In the case of England it will be readily recognised that coal has proved in an uncommon measure the key to her wealth. Not only have industries grown up round the coal mines, but British shipping has been made an enormously profitable business by virtue of it strengthening the foundations of British commerce and financial services. Coal explains the industrial dominance to-day of the United Kingdom, the United States and Germany. "The facts of the case," says Chiozza Money, "are so remarkable that they easily form the most important statistical record connected with practical economics."¹

World's production of Coal (1911).

United Kingdom	...	...	272	million Tons
United States of America	...	...	443	"
Germany	...	...	281	"
Total for these three	...	...	946	"
All the rest of the world	...	...	194	"
Total	...	...	1,140	"

¹ Sir L. G. Chiozza Money ; "The Nation's Wealth" (Collins Clear-type Press) 1s. net ; a work so full of instruction to us in India that every Indian student and thinker should study it in reference to our conditions.

The three industrially supreme countries between themselves produce more than four times the coal that all the rest of the world does. The production of Pig-Iron records a no less significant fact. In 1912 out of a total output of 72 million tons, the individual outputs were—

United Kingdom	...	...	...	8'8
United States	...	...	...	29'7
Germany	...	...	...	17'6
Total				56'1

Of the rest 9 millions was produced by France and Russia leaving 7 millions for the whole of the remaining world. Is it any wonder that these countries dominate the world's trade and industry? Fifty years ago Britain produced more iron than all the rest of the world (including United States and Germany), and forty years ago she was still producing nearly half the total output of coal in the world. Britain's industrial supremacy half a century ago stood unchallenged. But by 1890 the United States were already producing more iron, though Germany did not pass Britain till the new century had commenced; and the beginning of the century also witnessed America fast outstripping Britain in coal production, and Germany rapidly reducing British lead in this matter. We have in a nutshell an explanation of the nature and full force of the most intense economic rivalry of modern days, we have here also the real explanation of the fiscal discussions started in England with the new century.

But we are not directly concerned here with the growth and rivalry of the three industrially dominating countries basing their domination on the power of coal and iron. We wish at this stage merely to enforce the lesson that riches in the shape of these two minerals are the absolute pre-requisite of any economic potency in the present world, and dreams of India's industrial

development based on an inadequate perception of this fact are bound to be disappointed. And more. A poor country can the least afford to indulge in false dreams and the sooner one realised the serious limits that are placed by nature on our economic development the better it is for the country.¹

In India almost a universal belief prevails that this is a land endowed by nature with her best, and her resources are practically unbounded.

The wealth of Ind has become an unchallenged part of every Indian's thought. Uncritically, we are living in all conscience in the worst fool's paradise any people ever did. What are the facts? The total mineral production of India in the year 1913 amounted in value to only about Rs. 12½ crores or about £8 millions. Of this, coal stands for over Rs. 5½ crores. The output of coal amounts to no more than 1 per cent of the world's total output; even this small amount is not entirely absorbed by home consumption. The coalfields are not well situated, being at considerable distances from the few ports that India possesses, nor is their location favourable with reference to such poor iron mines as we possess. And the coal is of inferior quality.

As regards iron the industry practically does not exist. In a whole volume of study on Indian Economics the author² contents himself with one sentence—"The production of iron ore has now considerably increased owing to the activity of the Tata Iron and Steel Company." An industry necessary for the very foundation of industrial success, has to be dismissed in one word in recording the economics of this country. There is little flattering material here for those who picture to themselves an industrially prosperous India in any near

¹ The present writer thinks that the greatest service the new Royal Commission could perform for this country would be boldly to investigate and define the nature of our natural resources and the limits they impose on our economic growth in the light of facts of international competition.

² Mr. P. Banerjee.

or visibly distant future. The moral and material progress of India for the decade ending 1911 has little more to add to Mr. Banerjea's short sentence. The total output stood at 49,798 tons in 1901, at 54,626 tons in 1910, and rose suddenly to 366,180 tons in 1911, thanks to the operations of the Tata Company. The writer of the report ends his short paragraph with the remark: "in the returns for future years, iron ore will no doubt take a more prominent position." But of the world's total output of 72 million tons India's contribution does not amount to even a two-hundredth part and the world is full of competition and resource and dash and determination, and we do not excel in these virtues. There is reason then that we should pause and reflect, government and people alike, and then with a clear perception of our modest possibilities, proceed resolutely on well-defined and carefully planned lines.

We have now some explanation of the fact that notwithstanding the prevalence of peace conditions, India has had passively to look on while other countries have gathered the fruits of economic changes caused by the War. The Civil War in America in the fifties of the last century made possible the foundation of the Bombay cotton industry; so far as one can see the present European War with all the world-upheaval it has caused is not likely to make for any industrial opening or developments in India (excluding the temporary stimulus to such industries as directly minister to War requirements). The world competition has grown keener, its force, because of increased facilities in transport, is felt more directly and immediately; and the backward countries are, unless delivered by some extraordinary national resolve and superhuman genius, irrevocably reduced to economic thralldom. That is the supreme lesson of the economic history of the nineteenth century.

For us in India, the fact that under the present condition we are under the unavoidable and imperious necessity of exporting agricultural produce, combined with the circumstance that we are passing through a period of rapid economic transition, and also that in the great race of competition time is of the utmost importance, constitutes in my view a matter of the deepest moment that affects all our economic problems. The large changes in the structure of economic India, though they are asserting themselves rapidly, are of recent date. This is an age of transition in which the new and the old are strangely commingled, and the new that has appeared does not go without challenge. What we have really to decide is that, given the very stubborn fact that economic isolation is impossible for us—that we must have trade dealings with the outside world—what is the easiest manner of our paying for our imports. Are we to continue to specialise in agriculture, can we do so for any real length of time—though no doubt the possibilities of improvement in this direction are considerable; or are we in view of the keener struggle that we may have to face later, to fall into line immediately, though it may be irrevocably, with the rest of the world in her manner of production. There are serious limits to the extent to which we can depend upon agriculture as the only source of our wealth—these limits in India are likely to be particularly narrow because of the impossibility of capitalistic intensive cultivation in a country with small and scattered holdings. To-morrow it may be too late to enter into the struggles of the manufacturing world. The problem is urgent because it may never be presented again—and to my mind much of the feverishness of economic speculation, and the rush into new and often insecure enterprises in India is due to the apprehension of this circumstance. India is but just lifting herself on to the manufacturing plane, inter-

national trade rivalry is every day becoming more acute because of the well-known fact that markets have not expanded as fast as productive power under factory conditions; Europe is nervous to a degree about the sources of raw materials for her manufacturing industry and about secure markets for the disposal of her goods—her thinkers and statesmen study the Tropics and Subtropics with ever increasing interest because they would that these parts of the earth's realm in the great international division of labour perform these functions. At such a time, in such an age of transition, under such increasingly difficult conditions of competitive production, economics becomes a fascinating study, and the investigation of the country's resources in the light of international facts a matter of the most vital importance. But at such a time too, in the early stages of our initiation in a difficult branch of knowledge, hasty speculation is possible, and it may be urged that when we meet with errors that may appear patent, the critic would perform a real service if he examined the urgent circumstances which led to the incomplete view of the case rather than use that uncharitable weapon of condemnation with which, for instance, proposals for change in our customs policy have often been visited.

India's problem is urgent. On the one hand we have to realise that with our present productive power increase of population signifies a deplorably low level of life.¹ Today India should really be a food importing country to provide adequate food for her 330-million population, and that she has to part with a portion of her own production of cereals under present conditions shows her international economic weakness. We have to raise our standard of living at the peril of economic and national deterioration. On the other we are faced with the fact that our resources in the two most impor-

¹ It is significant in this context to read the views of well-meaning but hasty thinkers who put forward the view of the so called beneficent effect of famines.

tant minerals, coal and iron, are not only relatively but also absolutely poor. We suffer also from lack of organization. And we have not as a people yet recognised the gravity of this situation.

During the last thirty years our foreign trade has expanded fast from an aggregate of £87 million to over £150 m. But our trading power has depended primarily on the success of crops, and a considerable part of our expansion in foreign trade is to be explained by reference to the world's industrial expansion and the pull that that has involved on the raw products of backward countries through a rise of prices. Climatic conditions here and industrial development abroad determine the volume of our exportable produce and our capacity to purchase imports. In influencing the rate of international exchange, India has been able to say little or nothing. And yet to a country in unobstructed trade with the outside world, it is of the utmost importance to make her labour and capital power increasingly valuable in exchange for the labour and capital power of other countries. India's gain hitherto has been due merely to world expansion; she has shared in the general prosperity of the world, but she has not been able to force an increasing proportion of this share into her service. Our task if we wish to live in the great world of competition is to change this situation: to become an economically *active* from an economically *passive* country.

It is a great task, but it is a necessary task—and both thoughtful and practical India must strain every nerve to it, for the forces of competition are relentless. Shall Young India prove equal to it? In the answer to that question lies the whole secret of India's future.

THE RELATION OF ECONOMIC SCIENCE TO SOCIAL PROGRESS¹

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Introduction

In undertaking the discussion of the relation of economics to social progress it is impossible to avoid introducing ideas and formulating theories of a highly abstruse character. Many of them are of a philosophical nature—theories and problems of psychology and ethics. Unfortunately, however, the economist is obliged either to deal with philosophical questions which are still highly controversial; or he must limit the scope of his science unduly, as I think, and forego the application in the field of subjective experiences of laws analogous to those which he can formulate with precision for objective economic phenomena. Many economists² prefer to regard economics as excluding all questions of psychology; and they would base the science upon observations of preferences. I presume they would admit that such a subject as psychological economics (or *economic psychology* perhaps it should be called) does exist, or can exist; but they think the economist is rash to enter on a domain which is not his own, and that he should confine himself to those fields full

¹ This article contains the substance of a lecture delivered on 23rd March, 1916 under this title by the author at the Central Hindu College, Benares, which is now incorporated with the Hindu University of Benares.

² Marshall, Chapman, Pareto, Pigou, etc.

of innumerable concrete facts of which he has undisputed possession, and in which he has almost unlimited scope for important work.

The attractiveness of this view lies in the possibility it holds of being able thereby to formulate a precise and definite science which shall within a comparatively brief time become as generally accepted and free from controversy as the older natural sciences. Yet just as the chemist and physicist are now being forced to active consideration of the constitution of matter—of the true nature of the atom and the ion—and are plunging into the most controversial theories, so in all probability will the economist one day or other be forced to consider and investigate the immaterial background of his science. The psychologists show no tendency whatever to investigate psychological phenomena of an economic character; and it may be doubted whether they will do so until the economist, by his more or less crude attempts to observe and generalise these phenomena, has aroused the psychologists' interest and has given them something to criticise or disprove. As regards ethics, the economists' claim for a hearing is even stronger, for it is generally admitted that there is an *art of economics*—a body of knowledge and precepts directed towards benefitting mankind in some way. Some end or object must, then, be found towards which social activities are to be directed by advice of the economist; and as there is no general agreement, even amongst philosophers, as to what this end should be, the economist is forced to enter the lists to dispute ethical and political theories, however much he would prefer to remain aside.

I hold, therefore, that it is impossible for all economists to keep themselves aloof from controversial matters of psychology and ethics. But I believe also that these subjects of economic psychology and of the ethics

of economic activities are of prime importance to mankind; and that the urgency of the need for clearer and more definite knowledge of them now surpasses even the need for progress in economic science. There appears to me some danger in developing extensively a science of material wealth before an equally definite formulation is given to other human sciences; for it is always the definite and concrete statements of a well ordered body of science which attracts the practical man. He may thus be led to give undue prominence, in weighing the relative advantages of different courses, to the purely economic factors, when other considerations, if properly understood, would have outweighed them. A big majority of the world's great thinkers in all ages has held that the accumulation of material wealth and its enjoyment is not in itself a desirable end. But they have hitherto failed to settle exactly what is the "desirable end," to discover and understand in detail the various means of attaining the different conceivable ends one of which may be the "desirable end," and especially they have failed to indicate the relation of the economic, or wealth-producing-and-using, activities to the other means of attaining whatever may be the "desirable end."

The importance of stimulating thought upon these subjects, and particularly on the development of the other human sciences in relation to economics, appears to me so great that I make no further apology for expressing my views on subjects of a highly controversial character, and which I cannot pretend to have studied with that thoroughness and completeness which is strictly desirable. The views I put forward are in some cases mere hypotheses, supported only by my own observations and experience. I put them in print because I cannot but hope that some of the ideas when followed up may be found capable of yielding rich fruit; or at least that they may stimulate some useful research and thought.

Definition of Economic Science

Briefly put, economics is the science of how man strives to secure his material well-being. It deals with labor, manufacture, trade, commerce, money and so forth as the mechanism whereby man is obtaining satisfactions—always striving for the maximum of satisfaction, or pleasant feeling, at the minimum of sacrifice, or unpleasant feeling. It may be said, broadly speaking, however, to be concerned mainly with the phenomena of prices, or more correctly of prices and of exchange, for the economics of an individual in isolation are of relatively little interest or importance.

The science of economics is restricted to the study of wealth—that is to say of transferable goods limited in amount—and the reaction of wealth on man's feelings and actions. It does not concern itself with a whole range of human experiences which are often far more powerful than wealth in prompting human actions. Sex attractions and feelings, maternal and family affections, social kinship, the lust of power, and the passions of vanity, jealousy, and hatred, are beyond the scope of economics, because as a rule they transcend all measurement in terms of money or any other unit. Yet they are so important as motives of action, and contribute so powerfully to produce the net balance of happiness or unhappiness in every person's life, that they deserve the same sympathetic and detailed study as those actions which depend on motives measurable in terms of prices. Here and there in the economy of the individual the passions of love and hatred do become measurable in terms of money; but because no one has yet discovered a common unit of measurement of passionate feeling they are necessarily completely excluded from the theory of markets. If I might be allowed to hazard a suggestion for the future, however, it would be that we may ultimately find that the

control or development of passionate feeling does, or will, come into contact with the wealth economy of the social body as a whole, through the medium of the educational system and its financial cost.

For the present purpose, however, we may perhaps be satisfied with the rough classification of the biologist who classifies actions and feelings as those connected firstly with the preservation of the individual, namely, securing its food supply, secondly those connected with the reproduction of the species, namely, the sexual and maternal instincts, and thirdly those connected with the preservation of the individual and species from external danger, namely, the combative and the family and social instincts. It is evidently activities of the first class with which the economist is mainly concerned; yet wherever the use of wealth assists an individual or society in obtaining objects of the second or third class the economist is again an interpreter of how the demand is supplied, whether it be for a woman's finery, or the supply of battleships and shells.

With the progress of inquiries by economists into the actual facts of industries, it becomes clearer each year that the science of economics cannot be divorced from the study of man in all his variations and activities, internal and external. Economics is but a branch of the far wider and greater science of sociology—a very important, but also a very special, branch of an exceedingly comprehensive subject. Economics is closely related to geography on the one hand, as Professor Geddes insistently and rightly points out, and to ethnology on the other hand.

Introduction to Definition of Social Progress

Having considered briefly the definition of economic science and its relation to other human sciences, I come to a more difficult task, namely to define what I

mean by *social* progress. I can find no better term than this to express my meaning; but I fear it is too vague to convey any clear idea. *Social progress* obviously means the progress of society, that is say of the community of persons living in any territory; but it may mean either the progress of the individuals, or communal progress, or both. It may mean progress in wealth; or progress in physical culture and strength; and it may or may not include progress in learning, and a score of other human attributes. Thus it is impossible to avoid entering into some very fundamental considerations in order to define social progress with reference to a correct ethical basis.

The word "progress" implies the idea of change from any one state to something better; but I would negative at the outset any suggestion that the economist is at liberty to consider mere progress in the accumulation of wealth, or growth of the national income, as a measure or index of social progress. It is generally agreed by all economists that the production of wealth is only a means to an end—the satisfaction of wants; and they also agree that the satisfaction of the "higher wants"—love of art, music, and the intellectual pleasures generally—is preferable to the satisfaction of the baser wants, or sensual appetites. It is when economists come to discuss how wants arise—what is their relation to activities on the one hand, and to psychological phenomena of feeling and anticipation, on the other hand, that they are not agreed. It is unnecessary for me to enter into these controversies here; for I am not now concerned with the psychological mechanism whereby motives produce impulses to action. I am concerned here with the motives, and thus with the ethical basis whereby the origin and control of motives is to be judged. One aspect of the relation of wants to activities—namely the educative

power of certain activities must, however, claim our attention (see below, p. 193 *et seq.*).

In order to obtain a clear implication for the term *social progress* it is necessary, therefore, for us to consider upon what ethical grounds a community ought to be considered as being better off at one time than at another time; or, what comes to nearly the same thing, in what respects one community may be considered as being better off than another community at the same time in a different region. This cannot be decided, however, unless we possess a clear idea of the end or object of man's communal activities, so that we may obtain a standard whereby they may be judged¹. Here, however, we are brought into relation with the ethical question of the end or aim which regulates the individual's actions. The aims of individual and of communal activities are not necessarily the same; but they cannot for long be conflicting in a majority of the population. There are many individual activities which can never be undertaken in a communal manner; but it remains true that the ultimate end of communal activities must generally coincide with the end which guides the activities and desires of the *majority* of individuals in their individual actions.

Philosophers and political theorists have often discussed this question of the end or object of communal actions in a purely abstract manner, as if the proper end could be deduced from first principles. It would appear, however, to be impossible to get any generally acceptable premises wherefrom to evolve the true end by deductive reasoning; and I am consequently driven

¹ It is necessary to define clearly the sense in which I use the terms *social* and *communal*. The former is a broader idea than the latter. By *communal activities* I mean those for which the community definitely organizes itself: such as the maintenance of order, national defence, legislation, the provision of public utility services, etc., national and local. *Social activities* includes communal activities, and also all activities in which people more or less unconsciously combine; as in supporting religion, newspapers, etc.; in maintaining a standard of positive morality, checking gross misconduct; and in the provision of services by voluntary associations of every kind.

to the belief that philosophy must have essentially a biological basis. The end or objects of life determined by any purely abstract reasoning may be totally foreign to human nature; and it appears to me that the fundamental premise which must enter into all reasoning as to the end and methods of social activities and progress is the assumption of the continuance of those mental and physical characteristics which mankind now exhibits, modified only in one or more directions by a gradual process of evolution. The proper method of procedure would seem to be to determine by the inductive process what ends have at different epochs within historical time, and are at the present time, guiding the social activities of man in different countries. From the biological position, the assumption is legitimate that the end or ends now guiding activities will continue to guide them in the future, with such modifications as may be created by the progressive evolution of knowledge and human intercourse, on the one hand, or by the occurrence or recurrence of different conditions of environment on the other hand.

In the study of history we observe that three principal ends have at different ages in different regions determined the social activities of man. (1) First has always come the preservation of the tribe, the city or the state by the maintenance of internal order and by providing adequate defence against external enemies. (2) Secondly, though of course to a great extent concurrently in point of time, religious ends have at times become the chief object of communal as well as of individual activities. (3) Thirdly, since highly organized empires, city-states and nations have developed, there has been a more or less unconscious adoption of the utilitarian end, social activities being directed towards the attainment of happiness by organized mutual assistance. Since the days of Bentham "the greatest good of the

greatest number"—that is to say the maximization of happiness and the minimization of suffering—has become an explicitly recognized object of governmental action. I proceed to examine these three ends of social activities with reference to their bearing on present day conditions.

The Mercantile End

The first end—that of maintaining the stability of the state—involves for its attainment the adoption of the mercantile doctrine, which emphasizes the importance of developing by all available means the power of the state, and of centring the control of that power in a highly organized central government. The practical outcome of the mercantile theory is a body of rules of action for the state and the people which is denoted the *mercantile policy*. Its primary object is to strengthen the state relatively to other states. It is a policy of developing the whole resources of the nation to secure advantages of armaments and of strategy. Historically this has meant in England primarily the development of the navy; but also the protection of English industries and of the supply of precious metals. It was during the Elizabethan and Stuart dynasties that the mercantile policy flourished, when English national life was being consolidated, and England was menaced successively by the Spanish and the Dutch. During the French ascendancy of the 18th century it persisted, but slightly weakened. Historically it may be observed that the mercantile system did not pass away until England had gained command of the seas after the battle of Trafalgar; and I think perhaps too little attention has been paid to this fact. So long as there is no external danger, the state can devote itself to the enlargement of the happiness of its people. If a real danger is felt of the state collapsing

and coming under foreign rule or domination, the mercantile policy is the only policy which can commend itself to those who love their country and the ideals it stands for.

The Religious End

The second or religious end of social activities has flourished at all times in greater or less degree, though it is only in a few periods of the history of certain races that it could be said to have become the dominating end of communal action. The worship of the most impressive forces and objects of nature; the belief in a Divine Being external to, but concerned with the lives of men, and needing to be propitiated or pleased by worship, sacrifice, or good conduct; the belief in the possibility of attaining happiness, or the necessity of avoiding pain in a future life, have each provided ends which have produced the most powerful motives of action.

The Utilitarian End

The utilitarian end may be briefly defined as the attainment of happiness for oneself and others. Consequently it implies a continual endeavor to attain the maximum of enjoyment and the minimum of suffering and discomfort, each for himself and for other persons. The utilitarian end, as I understand it, does not mean merely that every person strives only to secure for himself the maximum of immediate pleasure with the minimum of effort and pain. It is in this crude form that the utilitarian doctrine has received much adverse criticism, and rightly so. Even the simplest psychological analysis shows that whenever man does pursue happiness as an end, he does so in a variety of ways, which differ for different people. Nor is there any reason to confine the utilitarian end to denote only the end of happiness of oneself; for observation shows that very many activities

are prompted by the desire to secure happiness for other people.

It seems possible to group those of a man's activities which are directed by the utilitarian end (in the wide signification in which I use the term) into three classes, as follows : —

- (1) Those activities prompted by the desire to realise the maximum happiness for oneself, in the present and in the future, including conscious self-development. These I shall refer to as *egoistic activities*.
- (2) Those activities prompted by the desire to assist other people to realise the maximum of happiness for themselves, whether these "other people" be other individuals with whom he comes in contact, or defined, but unseen, classes of men, such as those which have the sympathy of the charitable and of social reformers. This class I shall refer to as *altruistic activities*.
- (3) Those activities prompted by duty and moral obligations, such obligations being mainly the counterparts of the rights of others, and being defined by rules which are enacted or observed by society in a more or less conscious endeavor to secure the maximum of happiness of the individuals composing it. These I shall denote *regulated activities*.

The third group of activities, those prompted by legal and moral obligations, I shall refer to more fully below ; but groups (1) and (2) I may discuss at once. The statements which follow are not based upon those of any authorities. I am stating the utilitarian theory here in the way in which my own observations, and the necessity of correlating the utilitarian theory with economic theory have led me to formulate it. Pro-

bably some of my views will be regarded as highly controversial; but this appears to me inevitable, for I think that neither psychologists nor economists have devoted adequate attention to the fundamental ethical questions, whilst writers on ethics have generally failed to carry their analysis far enough and to acquaint themselves with biologic, psychologic and economic facts. In the present state of uncertainty, therefore, an economist may perhaps be permitted to express his opinion, especially as it has been reached as the result of much observation and reflection.

The activities of group (1) are those which are prompted by a man's efforts to realise his own maximum happiness. Almost all the ordinary economic activities fall under this head. It also includes, of course, a vast number of activities not connected with wealth, personal or impersonal, and which, therefore, are non-economic. The strictly economic activities divide themselves into those directed towards the enjoyment of pleasure, and the reduction of discomfort or pain *at the moment of the action* and those which are aimed at securing some *future* enjoyment, or warding off some future pain. But another sub-division—a cross division—may be made of the activities directed to obtaining pleasurable feeling. It is necessary to distinguish such activities according to whether they produce what are generally called gross pleasures, or what is known as enjoyment of a refined character. Examples of the former kind are the pleasures of eating and drinking, of smoking, and of pleasant scents and narcotics. With these must also be classed the excitements of gambling, racing, and of music hall or theatrical shows which are merely amusing, exciting or vulgar. The refined pleasures are those which arise from art, music, travel, reading good literature, study, healthy bodily exercise, and so forth. Such pleasures are almost always an

"acquired taste"; that is to say, a person must be educated to the appreciation of them. Their peculiarity is that the exercise of the faculty of appreciating and enjoying them tends in almost all cases further to educate the person's capacity for appreciation and enjoyment of them. Hence the experience of pleasures by such refined means leads to enlarging the opportunities for enjoyment in the future and to increasing its intensity. Marshall has familiarized economists with this idea by his observation that whereas in the earliest stages of man's development his wants "give rise to his activities, yet afterwards each new step upwards is to be regarded as the development of new activities giving rise to new wants, rather than of new wants giving rise to new activities.¹" Stated without further explanation this important law may be misunderstood. It is just as true of the higher as of the lower wants that a particular action arises because a want exists at the moment, and there appears to be the means at hand of satisfying it. The difference is that the lower kinds of wants are innate in man as a living being, whereas the higher wants are not so. The latter are not naturally a part of the nature of the very great majority of men, but become developed as the result of certain activities. These *developing activities*, as we may call them, are of two kinds: either (1) such as are undertaken intentionally for the purpose of developing such wants, as, for example, education in music or art, or (2) such as produce the more refined wants as a secondary or concomitant effect, the real cause of the activity being the immediate pleasurable effect. Examples of the latter class are the reading of novels of high literary standard, or books of travel, and all good literature which is entertaining, or informative,

¹ *Principles of Economics*, Book III., Chap. II., §4; 4th ed. (1898) p. 164. Cf. Book. III., Chap VI., § 6; 4th ed. p. 212.

without being dry. Common experience justifies this analysis. For example, once the power of appreciating the beauties of form and color, or of nature, has been acquired, whether it be by conscious education, or as a secondary effect of reading or travelling or some other pleasant activity, then the pursuit of such pastimes as photography or sketching continually develops the faculty of such appreciation, and the intensity of enjoyment derived from it constantly grows; and the pastime is enjoyed so long as leisure time is available, until it is supplanted by another more enjoyable occupation.

Developing activities of the first group are undertaken consciously with the purpose of developing some new faculty of enjoyment by some new activity. A person will undergo much wearisome effort and expenditure of money in learning to ride on horse-back, to sail a boat, to play the organ, or to sing, or dance, because he believes from the word of others that when accomplished in it he will enjoy this new form of activity. Children are often required by their parents to educate themselves to such activities, because the parents believe the latter will be sources of enjoyment for the children; and here we must remember that "doing the correct thing," and earning the approbation of our fellow men, are sources of enjoyment to most people, and that learning to refrain from doing the incorrect thing is learning to avoid a source of pain. It is logically correct, therefore, to include nearly all the activities of education, or conscious self-development of any kind, in the first major group of activities (*egoistic activities*, see p. 191), as being directed to the net increase of the individual's own happiness.

The second major group of activities consists of those which are prompted by the desire to assist other people to realise the maximum of happiness for themselves. It is divisible into two sub-classes, which can

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be fairly sharply distinguished from one another. The more numerous, and probably the oldest, of these sub-classes of activities is that embracing all actions undertaken with the object of benefitting definite individuals, which may be called *individualist altruistic activities*. A large proportion of such individuals for whom acts are undertaken will be members of the acting person's family; and there may be an insensible gradation of such acts into those arising from instinctive family affection (see above, p. 185), and thus not having a utilitarian basis. There are, however, countless acts which all generously disposed people undertake for the benefit, *i.e.* happiness, of definite individuals with whom they happen to have come in contact and to whom they are not in any way related by blood. The economic demand arising from such activities becomes combined with the demand arising from the first major group (egoistic activities); but perhaps the brisk Christmas demand in European countries for ornamental cards and presents may be cited as a case in which the demand due to individualist altruistic activities becomes of decided commercial importance.

The other sub-class of altruistic activities includes all those which are voluntarily undertaken with the object of benefitting a nation, the inhabitants of a town, or any classes of persons, whether their numbers and location be clearly known or not. Examples of such activities are: the work of a reformer in Parliament or in a municipal council; the actions of a reformer trying to alleviate the condition of workers in a sweated industry, or to help any depressed class; the doings of a temperance advocate; subscriptions to the Belgian Relief Fund, or to the Charity Organization Society, and so forth. It is difficult to find a name for this class of activities which is not open to objection. In the present article I shall call them *socialist altruistic*

activities. It is unquestionable that the progress of mankind as a whole is bound up with the increase of this class of activities.

The third major group I have called *regulated activities* (see above p. 191), because they are those which men undertake either under constraint of the law, or by force of positive morality, or of public opinion, which is nearly the same thing. It includes acts done under a sense of *duty* (except acts of worship arising from purely religious motives), because *duty* as understood by the individual is a more or less perfect reflection of the positive morality of the present or of a former age.

It may be still a matter of controversy whether the sanction of regulated activities, which lies in law and custom, has a utilitarian basis. The question appears to me to have been satisfactorily dealt with by Sidgwick, and I am in agreement with his views. As regards positive morality—which means the body of rules of conduct supported by the prevalent opinion in a community at any given time¹—there is much evidence to support the view that society condemns conduct which leads to suffering or unhappiness of other persons; and that this is the more or less unconscious basis of the numerous vague but powerful rules which in every society supplement the law in the regulation of conduct. It is, of course, true in this as in the economic group of activities that the individual does not know why he acts in a particular way. He is conscious of general approbation or disapprobation of particular acts; and the origin of the widely accepted opinion determining the approbation or disapprobation has to be sought by scientific inquiry. Sidgwick gives some interesting examples which support the view that positive morality has a utilitarian basis. He holds

¹ Sidgwick, *Elements of Politics*, 2nd ed., p. 23. See also much of Chapter XIII, on Law and Morality.

that insults and calumnies of minor gravity, deceptions and misrepresentations which do not cause any considerable amount of definite damage, and are thus not fit causes for seeking réparation in the law courts, are generally censured because "to leave them uncensured would tend to impair the pleasure and profit of social intercourse."¹ Again, he notes that it has always been the special function of positive morality to keep intercourse of the sexes outside the conjugal relation within the narrowest possible bounds, and holds that restrictions on the free union of the sexes are only justifiable on the basis of utilitarian individualism—because they are necessary to secure the support and education of children, and thus to prevent large numbers of them becoming miserable and outcast members of society.² These and many other cases which might be cited, such as the etiquette of calling on strangers, and many customs relating to the handling of food, seem clearly to prove that acts arising from the code of positive morality have a utilitarian basis.

When we turn to activities arising from the law of the land we find that the case is just as strong. The basis of modern English law and, for the most part, of the law of all civilized countries is the *individualistic minimum of interference*³: that is to say, the restraint of the freedom of individuals to the minimum extent necessary to secure to each person the right of enjoyment of his own property and activities without suffering harmful interference from others. Obviously an increase of interference and regulation by the state decrease the freedom of individuals and thus tends to reduce their opportunities of enjoyment. On the other hand too little interference allows selfishly disposed individuals to pursue their own enjoyment to the great detriment

¹ *Ibid.*, p. 211.

² *Ibid.*, pp. 210 and 56.

³ Sidgwick, *ibid.*, p. 44, *et seq.*

of the enjoyment or comfort of others, *e.g.* "scorching" motorists; and the maximum of advantage or enjoyment by the population taken as a whole is secured by a certain degree of regulation of conduct. This maximum it is subconsciously, if not explicitly, the aim of the legislature to attain.

As regards legislation, the doctrines of Bentham, as modified by Sidgwick, and expounded in the latter's works on Politics and Political Economy, have not been seriously refuted. Sidgwick has written in his *Elements of Politics* as follows;¹—

"I think we may claim general—if not universal—assent to the principle that the true standard and criterion by which right legislation is to be distinguished from wrong is conduciveness to the general 'good' or 'welfare'. And probably the great majority of persons would agree to interpret the 'good' or 'welfare' of the community to mean, in the last analysis, the happiness of the individual human beings who compose the community; provided that we take into account not only the human beings who are actually living but those who are to live hereafter. . . . I draw special attention to the inclusion of posterity in my statement of the ultimate end of legislation: because it appears to me that whatever force there is in the arguments urged against the view that the end of government is the happiness of the individuals governed, depends on the conception of these individuals as present, actually existing, members of the particular community in question. I fully concede that there are crises of national life in which it is the duty of the present generation of citizens, the actually living human beings who compose any political community, to make important sacrifices of personal happiness for the 'good' or 'welfare' of their country,² and

¹ 2nd ed., pp. 38-9.

² The entry of England into the present unhappy war is the best possible example of this principle. Sidgwick wrote these lines more than twenty years ago. [H.S.J.]

that this good or welfare cannot be completely analysed into private happiness of the individuals who make the sacrifices. I should add that there are cases in which it is the duty of the members of one political society to make sacrifices for the good or welfare of other sections of the human race. But I hold that if this good is not chimerical and illusory, it must mean the happiness of *some* individual human beings: if not of those living now, at any rate of those who are to live hereafter. And I have tried in vain to obtain from any writer who rejects this view, any other definite conception of the 'good of the State'."

The utilitarian end, or the "common happiness of humanity", appears to me, then, to be the only practical criterion by which we can measure progress in legislation and state services, or judge reforms. This end can be made the basis of a moral standard both for the individual and for the community.

It is well to point out that the recognition of the utilitarian basis for regulated activities, as well as for individualist egoistic and altruistic activities, introduces consistency into the view here presented of the end--the major end, at least--of all kinds of human activities. The individual may control his own actions to secure his own greatest present and future happiness, so far as such actions do not conflict with his obligations--the latter being based upon the social need of the different members of a society. This social need or instinct impels them to strive to secure each other's happiness, and the happiness of their successors of future generations. Those who have the social instinct, or have consideration for their fellow men, developed in them, strive to increase the happiness of those to whom they are related, or with whom they come personally in contact; and some also extend their care for the happiness of others to whole classes of persons whom they believe they can benefit.

The community also controls its laws and regulations, and its communal activities, with the same general object, so as to secure "the greatest happiness of the greatest number", both present and future. This is a hackneyed phrase; but it has a real meaning, if not one which is easily definable or measureable. It is generally recognized that the interests of a small minority must sometimes be sacrificed to those of the majority. The only trouble is that there is usually no possibility of measuring or even closely estimating the happiness or suffering likely to be caused or prevented by any given social action.

Yet it remains true that some sort of rough comparison can be made between the proportion of loss of utility (in the economic sense) of a class of persons *from* whom wealth may be transferred and the proportion of gain of utility experienced by a class of persons who receive the transfer of such wealth. Let me take a concrete example. Suppose that a legislative enactment—an agricultural tenancy act—were passed which would have the effect of increasing the rents of tenants all over a certain territory by approximately one rupee per acre per annum. Suppose it were an evenly and fairly administered measure, so that it affected practically all tenants in the same way. It must be assumed also that there would be no compensating rise of the prices of agricultural produce. In many parts of India the net incomes of cultivators available for living expenses would probably be reduced by about one-eighth, or 12 *per cent*, whilst the incomes of the landlords, or zemindars, might, I should estimate, be increased by, say, 9 or 10 *per cent*. But the majority of zemindars already have large incomes, so that the marginal degree of utility of money is low to them, whilst it is very high to the average cultivator. The marginal degree of utility of money would be made lower for zemindars and considerably higher for the tenants; and from what we know of utility curves it

seems probable that the average loss of the tenants would be from 10 to 12 *per cent* of their possible loss of satisfaction, *i. e.* of their total real income in satisfaction, as against something like, at the utmost, 5 or 6 *per cent* increase of the satisfaction of the zemindars.¹ There is also the difference of numbers to be taken into account, the tenants being at least a hundred times as numerous as the zemindars—in parts of the United Provinces with which I am familiar, at least a thousand times as numerous. In such a case as this, therefore, the economist can give a pretty clear and definite answer to the question usually put to the utilitarian—"What is meant by the greatest good of the greatest number?"

Relation of Mercantile to Utilitarian Policy

In this article I have treated the mercantile theory of securing the power of the state as representing an end quite distinct from the utilitarian end; and historically certainly it is distinct. It might be said, however, that the mercantile policy is in reality only a method of applying the utilitarian theory in particular circumstances, namely, when there is apprehension of an imminent national danger, with the object of securing the happiness of the individuals of a nation in the distant future. This is probably true. But, on the other hand, the estimate or consideration of future happiness relates to a future time so remote that it interests few people; also

¹ The use of the conception "possible loss of satisfaction" raises a somewhat controversial issue. It has been assumed by many authors that the initial increments of income up to the amount of income just sufficient to provide food to keep a person alive have infinite utility. This I very much doubt, if utility be defined, as it must be, as the power of producing satisfaction or pleasant feeling and of warding off unpleasant feeling. No increments of income produce infinite pleasure, or ward off infinite pain, for all accounts go to show that, apart from the general fear of death, which may produce mental agony, starvation is not highly painful. I am of opinion, therefore, that, for every individual, corresponding to every sized income, the income being regarded as varied by increments at a given moment, there is a maximum of satisfaction derivable by its judicious expenditure; and that the variation of this maximum satisfaction, regarded as a function of the size of the income, is a quantity which may conceivably be roughly estimated, though of course it cannot be exactly measured.

the pure instinct of self-defence plays so large a part in causing the adoption of the mercantile policy, that, for these two reasons, it seems to me best, from the point of view of the economist as well as of the politician, clearly to distinguish the mercantile theory from the utilitarian theory. The methods of seeking the power of the state are extremely indirect when regarded as a means of attaining happiness; and the economic and political measures to be adopted for the former purpose (the mercantile end) differ absolutely and completely from those which are needed when the utilitarian theory is to be applied directly to secure an almost immediate realization of greater happiness. It is, therefore, not only necessary, but also justifiable, for an economist to treat mercantilism and utilitarianism as distinct theories of policy.

Relation of Religious to Utilitarian Activities

Religious motives of action would appear to be related to utilitarian motives in at least three ways. In the first place, it is a commonly observed phenomenon that a class of persons which becomes prosperous rapidly—that is to say, prosperous relatively to its wants—tends to become irreligious. The forms of religion continue to be observed; but the true spirit of worship and sacrifice fades away amongst the great majority of persons in any such prosperous class of people.

In the second place it may be observed that there are many activities in connection with every religion which have, more or less, a utilitarian basis. There are a number of false devotees in every religion who expect to make worldly profit from their religious practices. Putting them aside, however, as having no true religious motive, we may proceed to question whether those persons whose present conduct is influenced by the hope of happiness and fear of punishment in a future life are not really actuated by utilitarian motives, owing to

the pleasurable or painful effects of anticipation.

In another way utilitarian motives, in the broad sense of the term, rightly form a part of the Christian religion, for it is an essential part of this religion to inculcate care for the happiness of others, and the right enjoyment of life—that is to say, it advocates elevating or self-developing pleasurable activities as against those which are degrading.

Yet it can be said certainly that when all the practices determined by the utilitarian end are eliminated from religion, there always remains over the essential element of religious emotion and worship, and this is an end which guides social as well as individual activities.

The Standard for Judging Social Progress

As has been pointed out in the foregoing sections utilitarianism can be sharply differentiated in principle and methods from mercantilism and religion as ends of communal policy. It does not follow, however, that a community need direct its activities solely towards one of these ends to the exclusion of the others, except when the measures which must necessarily be taken towards their attainment are mutually conflicting. As a matter of fact the methods of reaching these ends are often completely incompatible; and this accounts for the intensity of political partisanship and strife in a democratic country. Different parties each have different ultimate ends as the most prominent one in guiding their activities: and, so far as the practical proposals for making progress towards their different ends are by the nature of the social and economic fabric of society conflicting, the parties oppose one another; but when, as is sometimes the case, the methods of attainment of the different ends happen to coincide, or at least are not mutually destructive, the parties coalesce, or unite their efforts to obtain the particular reform in

question. The best example of mutually incompatible measures for attaining different ends is the ever-present controversy between free-traders and protectionists. The free-trade policy is one which aims directly at the utilitarian end; and according to economic principles it is a correct policy for attaining that end. In so far as the protectionists aim, as they mostly do, at increasing the self-sufficiency and power of the state by developing a variety of industries for supplying the needs of its own population, they have adopted the mercantile end. They need a protective or preferential tariff and subsidies, which are things the free-trader—rightly, from his point of view—will have none of. On the other hand a policy of developing the internal communications of a country would commend itself to both the utilitarians and the mercantilists.

Again there may be conflict between the policy of those whose principal end is the spread of the desire for and facilities for religious worship, and the utilitarians who hold that religion is the concern of each individual for himself, and who object, therefore, to taxation which presses heavily on the poor being imposed in the interests of a policy of diffusing religious worship more widely.

It is no easy question, therefore, to determine the relative extent to which the three principal ends of social activities should at any time respectively influence the efforts of reformers to secure social progress; nor is it any easier to agree upon the degree in which each is to be regarded as the desirable end when an endeavor is made to find a criterion or standard by which to judge or measure social progress. It must be admitted, I think, that any standard of judging or measuring social progress must be chosen with due regard to all the internal and external conditions of the country in question, so that it may, and probably will, vary considerably from time to time and from place

to place. The standard must be different now from what it was in the eighteenth century or early nineteenth century. At the present day it must be different in the United States of America from what it is in Japan, in India, or in Europe.

In formulating a standard for the judgement of social progress I shall be concerned chiefly with India at the present time; but I shall find it convenient for the sake of comparison to refer to the standards of social progress in other countries, particularly those of advanced European civilization. The one principle which I conceive to be applicable to all countries at the present time is that the utilitarian theory should be adopted as the end of policy to the greatest extent possible. By this I mean that all communal policy, state and municipal, and all social activities, should be directed to the utilitarian end, understood in the wide sense in which I have defined it above, excepting only in respect of activities which conflict with other activities directed towards the mercantile or religious ends. If this premise be agreed to, that all communal activities should be directed to the utilitarian end so far as they do not conflict with activities directed to the other ends, it remains only to determine to what extent, and in what kinds of activities, communal actions should at any time be directed to the religious and mercantile ends in preference to the utilitarian end.

At times the religious end^{*} has been very powerful in directing social and even communal actions, and it may well be argued that any estimate or measurement of social progress must take account of progress in religious worship; at least in countries where the religious end is real and important to a majority of the people. This view I am ready to accept. There is a difficulty, however, in directing communal activities^o to the promotion of progress in religious worship, in that in every

country, and particularly in India, there are many different, and in some respects competing, religions; and to promote each of them to the extent desired by its adherents would need totally different communal action in each case. Hence friction, and a disutilitarian result, would certainly arise unless Government in taking action for a religious end were to balance evenly the assistance it rendered to different forms of religion. There are certain actions, however, which can be undertaken impartially or nearly so. Government can aid religious pilgrimages by providing cheap facilities of transport; it can safe-guard, and if necessary administer, religious foundations and trusts of all denominations, and it can provide facilities for the erection and repair of religious edifices, and for uninterrupted religious worship. All these services may fitly be performed by the community at large for its various religious bodies in any country, and particularly so in India; and I think it will be generally agreed that such communal actions should take precedence of the application of the necessary state expenditure to many utilitarian ends, such as secular education. On the other hand it will be generally agreed that in India, at any rate, the application of state revenues to the maintenance of a priesthood for conducting public worship, for all religious bodies which desired it, should not take precedence of their use for a utilitarian end, particularly when there is no general system of elementary education in existence.

The extent to which communal activities should be directed towards the mercantile end must necessarily be a somewhat controversial matter, because it must be very difficult to form any kind of reasoned estimate of the degree of danger from external enemies which threatens any country at a particular time. In view of the origin and appalling results of the present war,

however, it may be said, I think, that every country whose territory is sufficiently large and varied in its natural products to enable it to become self-sufficing in the supply of necessities, would be unwise to rely for protection from external danger upon treaties, implied undertakings, or the good will of more powerful nations, to protect it from invasion. The smaller nations of the world may be forced into reliance upon treaties of neutrality; but India, with her vast population and her extensive territory, now known to yield almost every kind of raw product, is capable of being developed by a wise policy so that her population may be doubled, and her material wealth and resources may be multiplied a hundredfold. By careful forethought these resources can be so disposed under the command, or subject to the control, of the Government that they may rapidly be mobilized at any time when the safety of the State is threatened.

The two principal aims of the mercantile policy, so far as it can be applied advantageously to India at the present day, should be: (1) The development and control of internal communications; (2) The economical production of all necessities within the country.

(1) The State can aid agriculture and industries in no more practical and profitable way than by improving the internal communications of the country according to a well planned system, involving a network of roads, railways, canals and navigable rivers. It is almost impossible to over-estimate the benefit of such development from the utilitarian point of view; but such a policy is also of the utmost importance to the mercantile end. An essential part of the mercantile policy is, however, that there should be one central state control ordering the whole system, so that two objects in particular may be attained: (a) the alignment of certain railways with a view to their strategic importance; and the

provision of adequate permanent way and rolling stock facilities, and the proper orders, to secure immediate mobilization in case of need. (b) The provision of adequate transport facilities for the encouragement of indigenous and newly established industries, particularly those supplying the necessities of life and of war.

(2) The second principal aim—the economical production of all necessities within the country, should, so far as it is considered necessary to direct energies towards the mercantile end, be secured by a series of measures aimed at fostering the desired industries in a scientific manner. In discovering the correct measures to be taken a knowledge of economic theory will prove a most valuable complement to the technical information which can be supplied by those acquainted with the practical working of the industry. The general questions of whether the industry is subject preponderantly to the law of increasing returns or to the law of diminishing returns, and of what character is the public demand schedule, and what are the tendencies to increase or decrease of demand, are of paramount importance in estimating the future possibilities of growth of an industry. The usual system of encouraging industries by the imposition of a general protective tariff is most unscientific. It usually takes no account of the natural resources of the country, or of the aptitudes and inherited skill of the people. It greatly reduces the volume of international exchange; and the loss of the utility that might have been thereby gained is not compensated by any rapid growth of new home industries, which usually takes place only in the case of a small proportion of the industries protected. Even this small degree of compensation is only attained slowly; so that there is a very considerable net loss.

On the other hand, what I may call *scientific state aid* to industries must follow certain well defined lines.

In the first place is required a detailed investigation of the natural resources of each part of the country, and of the human skill and technical knowledge available, and of the supply of unskilled labor. The transport facilities and the possible railway concessions must be considered. Those industries for which the prospects appear most favorable in the light of all these circumstances may then be further investigated. The next question is whether capital will be forthcoming willing to take the risk inseparable from new undertakings. If sufficient capital is likely to be forthcoming, and sufficient technical ability for management, the State may then proceed to elaborate measures for protecting and fostering the infant industry. If there be serious competition from imported goods which appears likely to be successfully met when the industry is permanently established on a large scale, a protective customs duty is indicated. In order that the interests of the home consumers may be safeguarded, this duty should not be regarded as a source of general revenue for the State. All, or nearly all, the proceeds, after paying the cost of collection, should be used to stimulate the growth of the home industry: (1) by means of a small subsidy on production; (2) by establishing a guarantee and loan fund by which debenture or mortgage loans can actually be made to proprietors of approved undertakings by the State, or be guaranteed by it; (3) by providing facilities for scientific research and technical education in connection with the industry. If, for example, the proceeds of the import duty on sugar, or even only the 5 per cent recently added, were appropriated to encouraging the establishment of sugar-cane estates managed on a large scale and on scientific lines, and to encouraging the erection of refineries, the growth of a big sugar industry in this country within a comparatively few years might be confidently anticipated;

whereas the mere increase of the protective duty seems likely of itself to do little or nothing to stimulate production in this country, because much has yet to be learned of scientific methods of cultivation, and much capital must be risked in experiments, before the industry will be more profitable and safe for the investment of capital than numerous other openings now available. Thus without active State intervention to promote the industry, the increase of duty merely raises the price to the home consumer and provides more revenue for the State, and slightly more profits for the existing producers, which in the case of small cultivators of sugar-cane will tend to be transferred to their zemindars in the shape of increased rentals. The proper policy, when there is severe foreign competition, is, therefore, to combine a light protective duty with active Government assistance of the industry in all places where conditions are favorable. It should be clearly understood at the time when the duty is first imposed, that its duration is for some stated term, such as fifteen or twenty years; by which time the industry should be able to stand on its own legs, and the duty would then be removed gradually.

The policy of state assistance of industry which has just been outlined briefly should not be indiscriminately applied to every industry which seems likely to be profitable. It is only industries which produce either the necessaries of existence, judged according to the prevailing standard of civilization, or goods which might be wanted as materials or accessories of warfare in case the country might be forced to defend itself against aggression, which should receive active Government assistance. If the mercantile policy were interpreted as going beyond this, and were held to indicate the advantage of fostering luxury-producing industries, it might well be urged that here it would come into conflict with the utilitarian theory—it might be urged that the greatest good of the greatest

number would not be enhanced by using the resources of the state to aid certain classes of persons to enrich themselves by producing luxuries.

The foregoing is not intended as a full discussion of the extent to which the mercantile and religious ends should be adopted at the present time in India. It is intended merely to illustrate the principle enunciated early in this section (p. 205) that the utilitarian end ought to be adopted to the greatest extent possible at any time; and that it should be replaced by the mercantile or religious ends only where and when the urgency of the need justifies activities so directed. The question of the exact extent of such replacement can only be settled from time to time after detailed inquiry and research.

At this point I may best refer to a difficult question which is really a refinement of our inquiry, and has more of a philosophical than an economic or practical interest. The point of difficulty is as to what should be the ultimate ground of decision as between adopting the direct utilitarian end or the mercantile or religious ends in the borderland of those activities where both appear advantageous, but in execution are mutually conflicting. Wherever choice enters there must be some basis of decision; and, as we have adopted the utilitarian end as the criterion of the advantageousness, or the reverse, of the great majority of activities, consistency seems to require that we should also adopt it as the paramount or ultimate criterion whenever it is necessary to decide between two ends as the proper one towards which to direct activities. This could only be done, of course, in so far as the different ends are comparable with one another; and the only basis of comparison would seem to be the abstraction of the ultimate utilitarian effects of activities. The advantages of true religion, of racial pride, and so forth,

would have to be neglected, except in so far as they might affect the happiness of future individuals. From this point of view it would be more thorough to distinguish the ultimate utilitarian end, which might be reached by many different routes, often more or less conflicting, from the immediate utilitarian end. On the other hand it may be held with much reason that there is no common basis for the comparison of the utilitarian, religious and mercantile, or any other ends; and that the question of adopting one or the other as the end of certain activities must be settled by observing the tendency of a community, or a group of persons, to prefer adopting one end or the other as its standard of judging any defined class of activities. From the biological standpoint probably the latter view would be the correct one.

This discussion need not detain us further. For all the purposes of the present inquiry into the relation of economic science to social progress it suffices to contrast the immediate utilitarian with the religious and mercantile ends; and to have decided that the directly utilitarian end shall govern communal activities except when and where the existing conditions indicate the necessity of directing certain activities to the religious or mercantile ends. The next section will be devoted to considering the most advantageous kinds of communal activities for attaining the directly utilitarian end in the classes of activities which it has been decided should be governed by this end.

Alternative Ways to Utilitarian End

There are numerous alternative ways of obtaining happiness or enjoyment; and the instinct, or natural impulse, of every person is to do or omit doing such things as will maximize his pleasant feeling and minimize his unpleasant and painful feeling. The period of

time through which the person looks ahead in making a choice between actions is of the greatest importance. The "shortsighted" person makes decisions with reference only to the immediate future—the next few hours, or, in the case of activities which require some preparation, the next few days. The person in whom the power of forethought is strong, owing perhaps to its having been developed as a habit through the pressure of necessity in early years, does not consider only the pleasure of the moment, but calculates whether, by postponing enjoyment, or undergoing present exertion, he may not greatly increase his net balance of enjoyment in the future. There is, then, always the alternative between undertaking activities solely or mainly for *present* enjoyment, or directing some of the present activities towards an anticipated greater enjoyment in the *future*, near or distant. Naturally, in any period of a few months time, some activities must always be directed to present enjoyment, or it would be impossible to reap the advantages of former abstinence. The individual with forethought tries to establish a balance between his present enjoyments and his exertions for securing future pleasure.

The alternative courses of action open to a person for the removal of his discomfort or pain are usually very limited in number, and they need not detain us. The number of alternative ways of obtaining pleasure is, on the other hand, exceedingly large: and this fact demands our attention, because of the importance of the choice which the individual is forced to make, and the desirability of some social or even communal action to secure that individuals make the right choice—or, at least, to prevent them making a very bad choice. As already pointed out above (pp. 186 and 194) it is generally agreed that the satisfaction of the higher wants—art, music, and "self-developing" occupations—is

preferable to the satisfaction of the baser wants, or sensual appetites. The refined pleasures are produced by totally different sensations—both direct and secondary—from those which satisfy the grosser appetites. In order that the sensations, such as beauties of form and color, of the kind capable of producing pleasure by refined means may do so, the individual's taste must be educated to appreciate them; and this education usually requires disagreeable effort on the subject's part. We find here a very striking analogy with the theory of capital. A man invests in the development of his own faculties a certain amount of disagreeable effort (and often sacrifices some money also), in the expectation of reaping a more than compensating enjoyment of pleasure in the near or remote future. As pointed out above (p. 193) there is also another class of activities, namely, those which are both pleasurable at the time and also educative or "developing."

The individual, therefore, has the choice between: (1) activities producing immediate sensual gratification; (2) a series of activities unpleasant at the commencement, but resulting in future pleasure—usually in repeated enjoyment; (3) a series of activities somewhat pleasurable at the commencement, and becoming more and more so as experience develops the faculties.

In each of these classes there is a very wide range of alternatives, and much foresight and knowledge would be needed for any individual to reach, for example, the conceivable maximum satisfaction from the disposal of his wealth and his leisure time. Most persons, owing to mistakes of judgement, and to uncertainties, such as the weather, health, and other events, never achieve anything more than a small proportion of the possible maximum satisfaction. This is perfectly consistent with the fact that they are constantly struggling

to reach the maximum enjoyment, so far as their knowledge and opportunities go.

Observation seems to show conclusively that persons who have undergone the necessary education or experience for obtaining pleasure from activities of the above classes (2) and (3), obtain a higher intensity of pleasure by occupying themselves with these classes of "refined" activities rather than the sensual activities, class (1), for which their appetite may even decrease. Owing to the law of satiation of wants, variety is, of course, essential to the maximization of a person's enjoyment, and the maximum of satisfaction is doubtless reached by a combination in due proportion of activities of class (1) with those of classes (2) and (3).

The effect of introducing the "refined" activities, classes (2) and (3), into a person's experiences would appear to be a very considerable increase of his total satisfaction; but it is important to note that the necessary education, whether conscious and disagreeable, as in class (2), or unconscious and agreeable, as in class (3), takes place easily early in life, but much less easily, or not at all, after the person's habits have become gradually fixed, which takes place usually between the ages of 20 and 26, or at latest at about 30 years of age. It is this fact more than any other which justifies our regarding it as a social, and even a communal, duty to offer facilities to young persons of slender means for obtaining the requisite education for enjoying activities of class (2), such as schools of art, music, etc., and also to offer general public facilities for activities of class (3), such as public libraries, municipal bands in public parks, state opera houses, etc. General elementary education in European countries has in many places made compulsory a certain degree of education of the character needed for

activities of classes (2) and (3), the latter requiring no specific training, but only the inculcation of a general love of reading, and some power of independent thinking. In view of the fact that the rate of return to intelligently directed postponement of enjoyment is undoubtedly for most persons a very large percentage per annum, it may be taken as being in conformity with the utilitarian end for the community to make itself responsible for the education of all classes, using voluntary social efforts, so far as they go, under state supervision, and supplying as a public service whatever is not done adequately or thoroughly by voluntary effort up to the limit of the funds which can be made available for the purpose.

The principle determining the allocation of funds to the various public services should be that of equal marginal efficiency; the efficiency being estimated on the utilitarian basis, except where it is a question of deciding between the utilitarian and some other end, the mercantile, religious, or any other. In view of the practical impossibility of applying any paramount standard, if one exists, the criterion between different ends must be preference at the time for one end or the other, either on the part of the public at large, or of an aristocracy of wealth or learning, or of some other class particularly affected by the decision. The available funds should be so expended on activities directed to different ends as to secure equi-marginal preference on the part of the majority of the population, or of the class principally concerned.

Relation of Wealth to Social Progress

It will have become abundantly clear from the foregoing sections that the economist does not favor mere accumulation of wealth as an end in itself, and that he would be the last to regard the increase of a

country's wealth-producing powers as being in itself a true and sufficient index of social progress. The economist regards wealth as a means to an end, namely the satisfaction of wants; and wants exist owing to man's inherent desire to increase to the maximum his net balance of enjoyment by various means. The economist believes, therefore, in carefully regulating the consumption and use of all available wealth, including labor services, so that individuals may attain the ultimate maximum of satisfaction according to the principles laid down in the foregoing section; and he believes in adjusting production so that the wealth demanded for consumption may be produced most economically, and the services required may be applied most efficiently. He is concerned so to educate the population that its effective demand for commodities and services will be such as to maximize advantage judged from the mercantile, religious and utilitarian ends; and further it may be regarded as the economist's special business, in applying his science to the benefit of mankind, to indicate the kind of industrial mechanism whereby this effective demand can be most fully met with the resources available.

The foregoing analysis has cleared the ground for accurately defining in the next section the idea of social progress here adopted, and expressing it in succinct form. It will then be necessary to review the means of obtaining social progress, attention being first given to education in its widest sense and its relation to certain economic factors. The means of producing and adapting wealth to social progress will then be briefly considered, the application of economic theory to facilitate both production and adaptation being indicated. The concluding section will deal with the far-reaching question of the degree of assistance which

a fuller knowledge of economic science and the methods of applying its general laws to varying economic conditions may be expected to render in indicating how to secure the most rapid and well-balanced social progress, understanding the term in the sense to be now defined.

(To be concluded).

STATE AID TO INDUSTRIES

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In India, more than in any other part of the British Empire, current public opinion is opposed to the orthodox policy of *laissez faire* towards industrial development. Since the reformed Councils have come into existence a number of resolutions has been moved in the Imperial Legislative Council advocating state assistance to industries. This persistent advocacy has resulted in the appointment of a thoroughly representative Commission to examine the whole question of industrial development in India.

So long ago as 1880 the Famine Commission pointed out that no protective measures could be adequate which did not include some attempt to diversify forms of employment. Industrial development was advocated to counteract the effects of the increasing ruralization of the country. Since then the question of industrial development is being discussed with increasing earnestness by the leaders of public opinion in India. Provincial Governments have not lagged behind: they have instituted inquiries into the local industries, and the result has been that we have now some very valuable reports containing industrial surveys of the major provinces of India. To co-ordinate and control the commercial and industrial policy of the country the Government of Lord Curzon created

in 1905 the new Department of Commerce and Industry; and since that year also an Industrial Conference is being annually held at different centres to focus non-official public opinion on industrial topics. The papers read at the Conference meetings afford valuable materials for a study of Indian Industrial conditions and possibilities.

There are some general causes which have recently forced into prominence the need for industrial development in India. The problem of middle-class unemployment has assumed great importance. Thousands of graduates are being turned out every year by our universities: the professions are all over-crowded and they find it extremely difficult to eke out their livelihood. Unless they turn their attention to commerce and industry, they have scarcely any avenue open to them. The decay of our cottage industries has also attracted the attention both of the people and of the Government and efforts are being made to resuscitate them and place them in a satisfactory position.

But the most potent cause which has brought the industrial question to the forefront is the progressive commercial domination of Japan over India. In the course of ten years the value of imports from Japan has more than trebled (Rs. 4,06,66,980 in 1912-13 against Rs. 1,28,24,655 in 1903-4). Since the outbreak of the Great War Japan has stepped into the shoes of Germany and Austria-Hungary and has flooded the Indian market with cheap substitutes of German and Austrian goods. Prior to the outbreak of the War imports from Japan included, among other things, apparel, cotton hosiery, silk manufactures, haberdashery, matches, metals and glass and glassware. But since the outbreak of the war Japan has been sending to India not only vastly increased quantities of the above articles, but she has also struck out new lines of trade with India.

In 1913-14 Japan sent to India glass and glassware worth only Rs. 15,81,299, but in 1915-16 their total value has quadrupled (Rs. 60,06,643). Similarly, the value of the import of Japanese matches has increased from Rs. 39,06,824, in 1913-14 to Rs. 1,05,72,513 in 1915-16. In 1913-14 the import of sugar from Japan was of negligible value (Rs. 28,755): but within the space of two short years there has been quite a phenomenal increase, for in 1915-16 the value of Japanese sugar imported into India was about *one hundred and thirty* times of what it was in 1913-14 (*viz.*, Rs. 37,20,371)!! Again, the value of Japanese imports of piece-goods has increased from Rs. 14,04,731 to Rs. 60,70,237!

These figures speak for themselves and it is no wonder that they have awakened Indian public opinion to a full realization of the industrial backwardness of the country and of the strengthening grip of Japan over the Indian market. Naturally attention has been directed to the methods employed in Japan for promoting her industrial development and emphasis has been laid on one aspect of Japanese industrial policy, *viz.*, the system of state aid to industries. I do not intend here to discuss the methods employed by the Japanese Government to further Japanese industrial development. I desire, however, to consider very briefly the various forms of state aid that have been suggested for adoption by the Government of India.

(1) *Issue of takavi loans.*—In a Resolution moved by the Hon'ble Raja Kushalpal Singh in the Imperial Legislative Council on February the 24th, 1915, he dwelt on the desirability of a promoting industrial enterprise by loans on the lines of *takavi* advances. He advocated the laying out of a reasonable amount of money for the support of the indigenous manufacturing industry in the same way as *takavi* advances are made for the support of the agricultural industry. *Takavi* loans are given to agri-

culturists for agricultural improvements, including the sinking of wells, the purchase of cattle and various other things, on the security of the land owned by the debtor. These advances carry interest at 6 or 6½ per cent, and the principal is recoverable in instalments extending over a sufficiently long period. On the debtor failing to pay the interest or the instalments of principal, legal power vests in Government to proceed to distrain and to recover the dues by the sale of the land irrespective of any reference to the Courts. The Hon'ble Raja's proposal is therefore tantamount to asking Government to start the business of lending money on the mortgage of industrial concerns with more stringent powers of recovery of interest and principal than are possessed by ordinary mortgagees who advance money on such security.

Such *takavi* loans can help in the development of the small cottage industries which lie scattered over India: but do not co-operative societies offer greater facilities for developing small industries than any system of *takavi* advances?

(2) *State Financial Assistance through Banks.*—

In the beginning of last year the Finance Department announced that Government were prepared to make loans to the Presidency Banks to a reasonable extent for the general assistance of trade and industry, and in order to secure funds for this purpose Government took power to obtain funds from the Paper Currency Reserve up to four million pounds sterling for loans to Presidency Banks. By this means the Government enabled the Presidency Banks to make re-advances, if necessary, to other banks, who, in their turn, were placed in a position to finance industry and commerce more freely than would have been otherwise possible. Referring to this policy of state financial aid through banks Sir William Clark rightly said:—

“Banking facilities are the life-blood of the body economic and our aim has been to stimulate the flow through its veins. We are in effect by these measures strengthening the whole industrial and financial system of the country and I would put it to Council that this is a more practical measure in a critical period such as that through which we are now passing than if we were to lock up large sums in undertakings which might or might not succeed, but which could not, in any case, be reproductive for a long time to come.”

(3) *State Pioneering of Industries.*—The Bengal District Administration Committee have strongly recommended that a Director of Industries be appointed at once for Bengal; that expert managers be engaged under his control to carry on certain demonstration enterprises; that favourable subjects for demonstration might be found in small-power plants for rice-hulling, oil mills, etc., in coir and copra factories, and in small power sugar or even *gur* installations. In paragraph 10 of his concise but admirable “Report on the Industrial Development of Bengal” Mr. Swan declares—“while the industrial development of the Province must depend on private enterprise, I think the encouragement of Government might take a more active form than it has hitherto done. One demonstration is more convincing than a dozen monographs. Any one who has decided to start an industry will find much valuable information and advice in the monographs published by Government, but no one is likely to be persuaded by merely reading a monograph to start an industry. If, on the other hand, Government can demonstrate that an article can be manufactured at a certain cost, that a market can be found at a certain price, and that the margin of profit is reasonable, the opportunity will not long be neglected.”

This sound policy laid down in clear and emphatic terms by Mr. Swan for adoption by the Government of

Bengal is already being followed by some of the other provincial administrations—especially the Government of Madras, who have recently advanced a sum of nearly two lakhs of rupees for the starting of special work in connection with industries in which the economic situation appeared to justify the hope that something new might be done. The Director of Industries in Madras has already started work on a pencil factory at Coconada, on the revival of a glass factory in Madras, on oil-pressing experiments, on oil-refining experiments, and on soap-making experiments. The Madras Government have allotted one lakh of rupees for the ground-nut oil pressing industry, and they say that this grant is made “for the further investigation of the possibilities of extracting oil on a wholesale basis in this country, both for the purposes of supplying the local market and also with a view to testing whether the export of oil can be undertaken with any chance of financial success.” In addition to this, the Madras Government have been in correspondence with the Secretary of State, as regards the trade in ground-nut, coir and cocoanut, with a view to find markets for these products. All these are steps in the right direction. When normal conditions will have been restored, it is to be hoped that a policy of starting “pioneer industries” conducted by Government on a commercial scale will be laid down for all India, and will be supported by liberal financial assistance by the several provincial administrations.

(4) *Imposition of a Protective Tariff*:—This is a very big question which it is not possible for me to discuss in all its bearings within the short space at my disposal. Protected industries, however, appear to me to be like hot-house plants—too sensitive and too costly. But in special cases of proved vitality giving undoubted evidence of potentialities for future growth temporary protection may be beneficial.

(5) *State Guaranteeing of Interest*:—It has some-

times been urged that the Government should guarantee a minimum rate of interest on the capital raised by shares in the same way as they do in the case of the Guarantee System of financing railway construction in India. But this can be done only in cases where the chances of success are very great; and even then the Government must have a large share in controlling and guiding the business. This latter function is better performed by private individuals under competitive conditions. The guaranteeing of interest even at the initial stages might engender lethargy and inattention in the directorate. This, therefore, does not appear to be a suitable form of state aid to industries.

(6) *State patronage and facilities of transport*:—The Government of India have allowed the following concessions to the Tata Iron and Steel Co. Ltd.:—

- (a) The purchase by the State of 20,000 tons of steel rails annually for a period of ten years, subject to the condition that the rails comply with the Government specification and that the prices be not more than the prices at which similar rails could be delivered *c.i.f.* if imported into India.
- (b) A reduced rate of $1/25$ of a pie per maund per mile, equivalent to $\cdot 15$ of an anna per ton mile, on all materials and plant required for construction, and on all raw materials for the works, subject to a minimum mileage charge, and to revision at the end of ten years. The reduced rate has also been made applicable to all finished products and by-products despatched for shipment from Calcutta.

The above two concessions represent a new but most substantial form of state aid to industries, and they afford very solid proofs of the real interest which

the Government of India take in the industrial development of the country. This form of indirect protection of infant indigenous industries is to be preferred to the direct imposition of import duties. Indeed railway tariffs can be so arranged as to afford protection to struggling industries or completely to nullify the effects of a protective tariff. It is very much to be desired that the new Industrial Commission should handle this important subject of the relation of railway tariffs to Indian industrial development.

(7) *Finding Markets for Indigenous Industries.*—We have already seen how the Madras Government have been making serious efforts to find markets abroad for local indigenous products. In Bengal the keen interest of Lord Carmichael in the industrial development of the Presidency has materialized into a big Commercial Museum which serves both as an exhibition of indigenous industries and as a medium of communication between the producers and consumers. The officers of the Museum not only exhibit the goods, but accept orders for them and send them to the producers. Bengal is the home of many famous cottage industries: and the establishment of the Commercial Museum is destined to have a remarkable effect on their development. It is much to be desired that other provincial administrations should follow in the wake of Bengal.

In this connection I should like to refer to a very important suggestion contained in the following lines of the presidential address of the Hon'ble Mr. Manmohandas Ramjee at the Tenth Indian Industrial Conference held at Madras in 1914—

“With regard to the development of our trade, I am long since of opinion that India should have, if not a separate consular service of her own, at least distinct Indian sections at the different consulates controlled by

trained Indian assistants to give all necessary information regarding Indian produce and requirements, and to give similar information to Indian merchants about the requirements of foreign countries."

In the above few lines I have briefly considered some only of the various forms of state aid to industries that are already practised in India, or may be so practised. The work of starting large-scale manufacturing industries is of great magnitude and involves many difficulties. Such large-scale industries, to be successful, must be supported by highly efficient and scientifically skilled labour, free and abundant capital, remarkable business ability and a ready market. In order that state aid to industries may be rightly and fruitfully applied, labour should be trained and business skill created; technological institutes and commercial colleges are urgent desiderata: banking facilities are indispensable, and the development of cheap and quick means of transport is necessary. The passing of the Companies' Act and the establishment of a Commercial College at Bombay are steps in the right direction: commercial colleges at other business and university centres would be most welcome additions to Indian academic institutions.

But in our enthusiasm for starting large-scale manufacturing industries we should not forget our numerous cottage industries whose decay, partly owing to the pressure of foreign competition, and partly owing to greater attractions of other occupations, is a matter of grave concern to all interested in the material advancement of the country. But recently the co-operative societies have, with commendable zeal, taken upon themselves the very necessary duty of resuscitating some of these cottage industries by supplying our rural artisans with raw materials, buying the finished products and finding a ready market for them. Co-operative

efforts in this direction have achieved wonders on the Continent; and I am confident that, if they are well directed, they will achieve still greater wonders in this country.

CURRENT NOTES

The event of outstanding interest in the economic and financial domain since the issue of our last number is the Budget. Possibly it will become an historic budget, for it introduces several new principles in taxation. The outstanding feature is the gentle flirtation with protection, in the raising of the customs tariff to $7\frac{1}{2}$ per cent; and especially in the 10 per cent duty on sugar, without any countervailing excise duty, such as strict free-trade principles demand. The other novelties are the increase and graduation of the income tax; and the imposition of the export duties on tea and jute. As Ceylon had already imposed a tea export tax at the same rate; and as the tax amounts to less than 1 pice (or $\frac{1}{4}$ d in English money) per lb., it cannot be said to be likely to damage the Indian trade by favoring China in the world's markets. Jute, being practically a national monopoly of Bengal, with no satisfactory substitute, the economic conditions are ideal for the imposition of an export tax, which will be almost wholly shifted to the foreign consumer. The increase of the salt duty to Rs. 1-4 per maund does not, in our opinion, place an unjust burden on the poorer classes; though this figure ought, we think, to be regarded as the maximum rate, except in grave emergency. Higher

cotton duties and a higher general tariff, and the prevention of evasion of income tax, should precede any further raising of the salt duty. Our real objection to the latter proceeds, not from any belief that the present rate is oppressive to the consumer, but rather from the restrictive effects upon the working and prospecting for superficial mineral deposits caused by the regulations necessary to maintain the Government monopoly of the salt revenue. It is an antiquated tax, and should be removed from the list as soon as the revenue can be replaced from one or more of the numerous other sources available.

The formation of the Bengal Economic Association at the inaugural meeting in February last, over which His Excellency Lord Carmichael presided, is an event which augurs well for the progress of economic science in India. There are no less than sixteen professors and lecturers on economics in Calcutta alone, at the University and the Colleges. Throughout the presidency there are many more teachers of the subject; and the interest in it is widespread. It is to be hoped, therefore, that the membership of the Association, which is not confined to residents of Bengal, will show a rapid increase. Through its Journal, the first number of which was published in April, the association has the opportunity of doing much to encourage the scientific study of the economic conditions of Bengal and the neighbouring provinces. We have read with particular interest the articles on the *Economic Development of Japan* by Professor Hamilton; on *The Moratorium* by Professor Coyajee, and on *Index Numbers* by Professor T. T. Williams. There is one statement of Professor Hamilton's to which we take exception. He writes:—
"It is probably true that neither in her art nor her

literature has Japan shown the highest quality of creative genius." As regards pictorial art this view is surely out of date. Now that the very different canons of Japanese art are becoming appreciated in Europe, it is being recognized that amongst her artists there have been many men of genius. Their names are indeed rapidly becoming household words in cultured circles of all countries. Professor E. A. Horne's article on the *Organization of Economic Research in Rural India* is full of useful suggestions.

Mr. W. H. Moreland has written to us on the subject of his article on *The Ain-i-Akbari as a base-line for Indian Economic History*, which appeared in our first issue. He finds that the preparation of a critical edition of the text of the *Ain-i-Akbari* is an indispensable preliminary to pursuing the subject of Akbari Statistics; and "that both English translations are absolutely misleading on the revenue-system, owing to ignorance of technical terms on the part of the translators." He adds: "On p. 47 of Part 1 of this Journal, I stated that, so far as I knew, the identification of Akbari parganas with existing administrative areas has still to be done, except for certain parts of the United Provinces. This statement overlooks the identifications contained in the most recent series of District Gazetteers, in which the question is dealt with for (I think) each district in the Provinces, and which are more readily available to Indian students than the works which I mentioned."

The recently concluded examinations for the Bachelor of Arts degree have shown in most of the Indian Universities an increasing number of candidates taking economics. In the Allahabad University it is by far the most popular of all subjects, English alone, which is

compulsory, having a larger number of entries. We wish that the standard of the examinations in economics had been raised as rapidly as the candidates multiplied. The standard is highest probably in the Calcutta University. From another Indian university, which shall be nameless, we have received a few gems in the way of answers by candidates who (presumably) failed. For example, in defining wealth, the examiner was told that—"the 'Fall of Niagara' did not constitute wealth until men came to know of the electric power it has." In illustration of the Law of Satiation, another wrote—"A man will not continue eating until he bursts his stomach." What concentrated wisdom! Again—"After the invention of steam (*sic*) people travelled in trains." Another, evidently not a farmer, or the son of a farmer, wrote—"In agriculture the farmer plays a passive part. Nature plays the important part." These were by three different candidates; and is it not marvellous, that college lecturers, sometimes misnamed professors, should ever allow such students to enter for degree examinations?

The Indian Trade Journal is a weekly publication, issued by the Commercial Intelligence Department of India at Calcutta, which deserves to be more widely read and consulted. The inland subscription is only Rs.13 per annum; and it is worth that price for the numerous references contained in every number to other sources of information alone. There are few things of interest to India in the domain of commerce and industry which escape its attention, excepting stock exchange and market prices which it leaves to the commercial newspapers.

REVIEWS OF BOOKS

RELATING TO INDIA

Indian Economics. BY H. S. CHATTERJI, M.A. Calcutta: S. K. Lahiri & Co. 1916. pp. x, 473. Price Rs. 2-4.

Any additions to the distressingly scant literature on Indian Economics should, as a rule, be welcome, but this cannot be said unreservedly of the book under review. The author says in his preface "the time allowed to me being necessarily very short to afford such a comprehensive study like Indian Economics, I could not avoid many unpardonable mistakes and misconceptions." We are not told, however, wherein lay the necessity for so much haste in producing the book. But haste or no haste, there ought to be no room for "many unpardonable mistakes and misconceptions" in a book obviously meant to serve as a college text-book. And "many" is hardly the word for the innumerable errors scattered throughout its pages. We wonder if the author quite realized that he was writing on an important scientific subject, requiring careful and precise thinking, with equally careful and precise expression. His production at any rate does not show that he did. He forgot perhaps that with all the individual freedom that we fortunately enjoy in the 20th century, we are still not at liberty to spell words as we like, construct sentences without reference to grammar and use the singular or plural number without any regard to consistency. One could quote blunders from almost every page of the book to illustrate this remark.

The general plan of the book is substantially the same as that adopted by Professor J. N. Sarkar in his "Economics of British India." There are six main divisions dealing respectively with what the author calls, the Geographical Factor, the Special Factor, the Political Factor, Production,

Consumption, Distribution, and finally Exchange. We are by no means certain if this is quite the best plan for a text-book on Indian Economics, but apart from this, it seems absurd to include Public Finance under Exchange. The main object of the book is apparently to help students preparing for their B.A. degrees, and as such the author has tried to cover the whole field of Indian Economics in a comparatively short space. The inevitable result has been a sketchiness of treatment in many parts. The author seems to have read fairly widely, but without any attempt at assimilation and independent thinking. He quotes freely from all available sources, though without references or indeed any acknowledgment--except a little note in the preface giving names of authors to whom he is chiefly indebted. Often he fails even to use inverted commas to indicate quotations--surely the worst of literary crimes. No attempt has been made to bring figures up to date--the author is sometimes contented with quoting figures even of the last century as illustrating present conditions.

Speaking of the economic transition in India Mr. Chatterji says "Further recent statistics show that (a) the predominance of agriculture is losing its importance. Industries are growing in a break-neck space (*sic*) though the dimensions yet achieved need much to be increased. Morrison says that, India's capacity to spin and weave has quadrupled in 30 years (1880-1909)." Again: "There are now 33,484 miles of railway open for all kinds of traffic in India," but this figure for railway mileage is at least four years old. Later on in the same connection the author deals with the question of the Industrial Revolution in India. We are told "Though the Industrial Transition has began (*sic*) about the year 1860 with the establishment of Jute Mills in Calcutta and Cotton Mills in Bombay, the Industrial Revolution has began in right earnest only a generation before." We doubt very much if the economic changes through which we are passing can appropriately be divided into an Industrial Transition and an Industrial Revolution. Speaking of the *Pax Britannica* and its economic effects, the author says, "Increase of population and demand for grain from abroad led to the cultivation of more and more lands increasing both rent and its price (*sic*)." The term "price of rent" is new in economics, and

we should like Mr. Chatterji to explain it more fully—*i.e.* if he really means what his words seem to imply.

The book as conceived might have been made a handy compendium of useful information. The result of the author's bungling is to produce an academic man-trap for unsuspecting students. There is, no doubt, a field for a good book of this kind, with full references, and containing as far as possible the latest figures, as a sort of guide-book to the study of economic facts in India. What is more urgently wanted, however, is a work which will explain critically, by taking concrete Indian examples, how far economic theory in all its branches, as it is understood in the West, requires to be modified in the light of Indian conditions. Such a book can best be written by an Indian, but he who sets about the task must know that it cannot be scribbled off in haste.

Lift Irrigation. BY ALFRED CHATTERTON. Second Edition. Madras: S. A. NATESAN & Co. 1915. pp. iv, 354. Price Rs. 2.

This book as the title suggests deals with the subject of irrigation where the water must be raised by mechanical means. It does not discuss canal irrigation where the water is put on by flow. Strictly speaking the subject matter of the book, is a "Discussion of the various mechanical lifts for raising water, chiefly from wells." They may be divided according to the source of power as follows:—

1. Man-power lifts.
2. Animal-power lifts.
3. Power pumps, the sources of power being (a) steam, (b) electricity, (c) oil, crude or refined, (d) gas producer, (e) windmill.

The book does not take up the subjects of how the water raised is to be applied to the various types of soil, and the varying needs of different crops. It seems to be assumed that, given the water raised, the ryot will make the most economical use of it. Unfortunately the facts are against this assumption. Crops may be seen in various parts of India seriously injured by an excess of irrigation water. If anything is wrong with the crop the ryot, when he can get it, is apt to put on more water; for he thinks water will take the place of cultivation and aeration of the soil. Through unwise irrigation much valuable land in India has been made

unproductive, and the subject of drainage must be considered along with irrigation if agriculture is to prosper in India.

The book consists largely of papers prepared at various times during the last twenty years. It therefore has an historical value as showing the development of expert opinion with respect to lift irrigation in India. There was a time when mechanical means of lifting water were so few and expensive that engineers deputed by the Government to investigate reported that the ordinary country methods of raising water by means of oxen and a leather bag, or iron bucket, or Persian wheel, were more efficient and economical than any power plant known. Since then we have learned how to increase the capacity of wells, and have worked out suitable units for power pumping, so that today the country method is one of the most inefficient and expensive known to us. The extreme importance of this whole subject causes one to marvel that until very recently, so little investigation has been carried on in India by either private enterprise or Government; and it is a fact to be noted with pleasure that the agricultural engineers in India are now working at the various problems of lift irrigation with a great deal of success, wells giving half a million gallons a day being not uncommon.

One serious defect in such a book is the using of local Indian terms without translating them; and a much more serious defect to the man who buys this book, hoping to get help from it to put in a modern pumping plant, is the entire absence of diagrams, plans, drawings and illustrations. One small plan of a pump and power-source would be of greater help than pages of print.

A farmer who has been for eleven years eagerly looking for a suitable power pump for the land he manages informs us that this book while it helps him a great deal indirectly, and will save him from mistakes, does not tell him in his conditions just what he wants to know. We therefore hope that, in the very near future, the important points left out of this book may be inserted and that the subject matter may be brought up to date. There is a great demand for accurate information that will enable the Indian cultivator to get a certain amount of water for a given expenditure.

The Study of Indian Economics (with a list of books and official publications on the subject). By N. M. MAZUMDAR, B.A., B.SC. Bombay: Caxton Works, Frere Road. pp. 28. Price As. 2.

Mr. Mazumdar has done well in issuing in pamphlet form his lecture to the Bombay Students' Brotherhood on the study of Indian economics. It requires much more than a single lecture to do any justice to such a comprehensive subject; but Mr. Mazumdar made very good use of his time, for he touched upon a large number of important issues which he dealt with in a manner which commends itself to us for his clarity of thought, and sound knowledge of economics, no less than for his easy and attractive style. He spoke of the importance of the study of economics in India, the scope and method of such a study, the resources and material available for it and finally of the application of the study to the economic development of the country. His remarks on all these topics, as here reproduced, though not exhaustive, are still interesting and often suggestive, and it is hoped that he may find time to develop them more fully.

In conclusion Mr. Mazumdar gave some sound advice to his countrymen as to their own responsibilities in the matter of India's economic regeneration. Though the State, he said, can and ought to do much, the people too must shake off their old lethargy, and study economics more seriously, making use of their knowledge in practical life. This is no doubt true, and we hope the astonishing ignorance of economic facts and principles which characterises the utterances and writings of many of our public men in responsible positions, will not long continue to make us look ridiculous in the eyes of competent observers.

The bibliography of books on Indian economics given at the end, though by no means exhaustive, should prove useful to students of the subject.

Currency Organization in India. By ALAKH DHARI. Bombay: The Bombay Chronicle Press. 1915. pp. lx, viii, 190 (including appendices and index). Price Rs. 4-8.

In spite of a comparatively large literature bearing on the subject of Indian Currency, including the final report of the recent Royal Commission, it is by no means certain that the last word has yet been said on the many moot questions of

Indian Finance and Currency. We must expect a revival of the controversy as soon as more normal times return. In the meantime it behoves the impartial student to arm himself with an historical knowledge of the growth of currency and financial organization in this country, so that he may the better understand the intricate questions involved.

The present volume aims at presenting an historical critical survey of some of the more important aspects of the Indian Currency problems.

The main body of the book was written before the Chamberlain Commission made their final report. But in his long introduction, running to over sixty pages, the author gives a critical resume of the Commission's report and its chief recommendations. He follows generally the same line of criticism as was adopted by Sir James Begbie in his note of dissent, without bringing forward much in the way of new facts or principles to strengthen his arguments. A few observations, however, deserve notice. Mr. Alakh Dhari states that it is "the impression in this country that every separate branch of the Fund," including the general balance and the reserves, has a definite object in view and a specified function to perform. He therefore deprecates making any use of the Paper Currency Reserve for the purpose of supporting exchange. If at any time the Gold Standard Reserve should be found insufficient to maintain exchange, he would prefer that recourse should be had to borrowing rather than to encroaching on the Paper Currency Reserve. He goes on to say (page vi of the Introduction):—"It may perhaps be a lurking fear that the general balances of the Government are liable to be put to uses for which they are not meant—*viz.*, the solution of exchange difficulties and financial help to the London money market—that is at the bottom of the panic which prompted a run on the Post Office Savings Banks during the last few weeks?" We are not at all sure that this statement is accurate. Taking into consideration the facts that the class of depositors who were mainly responsible for the run know next to nothing about Reserves or Balances or even exchange, we should have thought that the run on the Savings Bank was more probably due to a blind fear of India becoming involved in a world-wide war and that this might mean a

wholesale forfeiture of deposits for Government use. Apart from this rather immaterial point, however, one may question the advisability of definitely tying up the hands of the Government at a time of severe crisis in exchange, at which time borrowing might be difficult and expensive.

As regards the location of reserves and general balances, and the sale of council bills, the author's views are substantially the same as those so often put forward by Mr C. de P. Webb of Karachi. He suggests that loans from the Treasury balances and the Paper Currency Reserve, should not be confined to the Presidency Banks alone. In the main body of the book the author traces "the rise and fall of the rupee," and India's progress towards a gold currency. The question of the gold reserve and the expansion of paper currency are also historically treated, with a wealth of quotations which may prove useful to future students of the subject. The concluding chapter headed "the Apple of Discord" deals with a large number of topics, including the sale of council bills, and sums up briefly what the author calls "the demands of the people of India in matters pertaining to currency, and the disposition of the various financial reserves."

There is hardly anything strikingly new or original in the book, either in the facts, arguments, criticism, or suggestions. But as an historical treatise, and as representing one view of the Indian currency question, the "gold-currency-circulation-with-free-gold-mint" view, it will be found useful and interesting

Indian Banking and State Aid. By ALAKH DHARI. Allahabad. The Leader Press. 1915. pp. 25.

This small pamphlet contains the reprint of a paper contributed by Mr. Alakh Dhari to the ninth session of the United Provinces Industrial Conference, held at Gorakhpur in April, 1915. There is hardly anything in it which Mr. Alakh Dhari has not already said in his bigger book "Growth of Currency Organization in India", which we review in the present number. After blaming the Government of India for its indifference "in the matter of rendering effective help to the banking and commerce of the country", the author goes on to examine the question of the grant of temporary loans from the Paper Currency Reserve, as recommended by the

recent Royal Commission. He next considers the history of the general balances, and concludes that "there has anyhow been a heavy withdrawal of money from the capital available for the use of the people, and in a country like India, suffering from a chronic want of cheap capital, such a huge drain cannot but retard her economic development." After quoting at length from the report of the Royal Commission on this point Mr. Alakh Dhari expresses his approval of the Commissioner's recommendations, only adding that loans should not be confined to Presidency Banks alone, but should be extended to other first class institutions. This seems reasonable enough, and we have no doubt, when the question is taken up once again by the Government of India, this suggestion will be duly considered. We wish, however, that instead of lingering on the well-worn themes of the "lucky borrowers" and the "fortunate broker," Mr. Alakh Dhari had devoted himself to working out questions of more direct practical importance, *e.g.* the average rise in trade demand for accommodation during the busy season; the consequent extent of rise in bank rate; the extent to which Government could normally come to the rescue without running unnecessary risk, and so on. Suggestions are much more useful when backed up by definite facts and figures.

Rise and Growth of Bombay Municipal Government.
BY D. E. WACHA. Madras: G. A. Natesan and Co. pp. viii, 455, iv. Price Rs. 2.

The slow but steady growth of Local Self Government is perhaps the most encouraging sign of political advancement in this country, and a history of the movement could not fail to be of considerable interest at this time. But it is doubtful if a general history can be written at this stage. India is a vast country of which some parts have advanced much more than others. Naturally therefore the growth of local autonomy has not been either systematic or uniform throughout the country. While some parts, especially the large presidency towns, enjoy a substantial measure of local self government, the smaller towns, and the villages, to some extent, are just beginning to feel their way in this direction. But even particular histories of the more progressive parts of the country should prove useful as guides for the comparatively backward. We are therefore glad to see that Mr. Wacha has

published in book form his series of articles, contributed originally in 1901 and 1902 to the Bombay Municipal Journal, on the Rise and Growth of Municipal Government in the city of Bombay. Mr. Wacha writes with the authority of one who has long been intimately associated with the Bombay Corporation as Councillor, and has also been its president. Beginning with 1792, when the first faint attempt was made in the direction of municipal government, the author goes on in Chapter VI to examine Act II of 1865, which forms the basis of the present constitution in most important respects. It was not, however, till 1882, that any real measure of genuine self-government was conferred on the people of India by the Government of India's Resolution of that year, and the genesis of the Bombay Municipal Act of 1888, which has been successfully working ever since, may be discerned in this Resolution. The history of this act is very interesting, especially the strong fight over the relations of the Commissioner—the Chief Executive Officer of the Corporation—to the Corporation itself; and much of the latter part of the book is devoted to it. Mr. Wacha has told the story very well indeed in his well known style. In appendix I. Mr. Wacha gives a "memo of legislation since 1888 for the amendment of the City of Bombay Municipal Act of 1888," while the remaining two appendices give a statement of income and expenditure from 1867 to 1912.

At the present time, the Bombay Corporation is admittedly one of the best and most efficient of municipal institutions, and the "Queen of Cities" owes much of her prosperity to the ceaseless activities of her Corporation. A history of this institution cannot fail therefore to be a source of inspiration and instruction to all those interested in the development of municipal government, and we commend the book to their careful reading. We hope that, if a second edition is called for, Mr. Wacha will add to the usefulness of the book by bringing it up to date.

The Industrial Development of Japan. By BEJOY KUMAR SARKAR, A.B. (Harvard), Professor of History and Economics, Central Hindu College, Benares. Benares: The Tara Printing Works. 1916. pp. 52. Price As. 6.

The industrial development of Japan during recent years has been so phenomenal as to attract world-wide attention. While

the old established countries, such as England, Germany, and the U. S. A., have had to recognise in her a serious commercial rival, the comparatively backward ones have found in her example an inspiration and a stimulus. We in India have not been unaffected by the force of Japanese competition, but our chief interest in her lies in carefully watching the course of her industrial expansion, so as to derive benefit from her example. There can be no doubt that in the present stage of its economic development Japan offers a closer parallel to the conditions of India than do the Western countries. Naturally therefore we can expect to learn much by a careful and critical study of the conditions and circumstances of Japanese progress. But in order to do this we must possess an accurate and critical knowledge of things as they actually were before the industrial era set in, and then follow step by step the exact line of progress, taking careful note of all the causes in operation. Also we must not forget to notice at each step the important differences between India and Japan, due to history, geographical environment, political position, and a host of other factors. It is only by making due allowance for all these things that we can learn anything of practical importance from Japan's industrial progress. Mere recounting of figures, and loud talk about subsidies and protection, can be of little use except in diverting attention to subsidiary matters.

In the pamphlet under review the author seeks to go over the entire field of industrial development. Beginning with agriculture, which is still the most important industry of Japan, supplying occupation to more than 60 p. c. of the population, he goes on to consider Forestry and Mining, Fisheries, and finally Manufacturing Industries. All this cannot be done with any thoroughness within the short space of 50 pages. Mr. Sarkar has in fact contented himself generally by giving figures, probably from an old issue of the "*Financial and Economic Annual of Japan*"—which, by the way, is a highly useful publication—without much attempt at analysing them, and setting forth the ultimate causes of progress. As it is, he might at least have brought his figures up to date; for it is rather misleading in a pamphlet published in 1916 to make use of such expressions as "now" and "at present" when the figures that he gives refer in no case to any later year.

than 1910. The sources from which the statistics are taken are also not indicated. Nevertheless we hope the pamphlet will be found interesting as giving in brief compass a bird's-eye-view of Japan's all round progress during, say, roughly the two decades 1890-1909.

Speeches of Gopal Krishna Gokhale. Second Edition. Madras: G. A. NATESAN & Co. pp. viii, 1236, xvii. Price Rs. 3.

During the course of a long and strenuous public life, characterised throughout by supreme selflessness and purity, Mr. Gokhale said and did many things of the greatest abiding interest and value. Speaking always with a sense of responsibility, his utterances possess a clearness of thought and expression, and a moderation of tone, all his own. They are therefore eminently worthy of a permanent place in our political literature; and we congratulate the enterprising publishers on bringing out at a fairly cheap price an exhaustive edition, embellished with portraits.

The book is divided into six parts, with two appendices at the end. The first part, running to over 800 pages, contains all the Council speeches. And as one reads through them one cannot help pausing in admiration at the marvellous insight, grasp, and power of criticism displayed throughout. This is peculiarly true of such of his speeches as deal with economic subjects, amongst which the series of Budget speeches from 1902 to 1912, with which the book opens, are particularly noteworthy. Although some of the views expressed are still matters of controversy, they have a special interest to students of political economy, in the strict sense of the term, as representing the views on Indian Finance of one of the ablest of Indian economists. Besides this, the numerous facts and proposals presented in a clear and original form are suggestive and stimulating, and will be of use in this way to a whole generation of future reformers.

Of Gokhale's other speeches the most important perhaps are his Presidential Address to the Benares Congress in 1905, and some others on miscellaneous topics collected in Part V. Each one of them is marked indelibly by his great love of humanity, his large practical wisdom, and his high-souled patriotism which refuses to recognise any limits to India's legitimate aspirations under British rule. Also the charm of

his style and manner invariably turns to pleasure the reading of what might otherwise be somewhat dry topics.

The last part of the book contains the full text of Mr. Gokhale's evidence before the Welby Commission of 1897, and also the statement which he submitted to the Royal Commission on Decentralization. Both bear eloquent testimony to his wonderful grasp of facts and his great mastery of analysis, and are well worth careful study even now. Appendix B contains a full statement of the constitution of the Servants of India Society founded by Mr. Gokhale in 1905 with headquarters at Poona—a remarkable institution, and perhaps the greatest of the deceased patriot's material achievements.

All about the War: the Indian Review War Book. Edited by G. A. NATESAN, with an introduction by H. E. LORD PENTLAND, Governor of Madras. Madras: G. A. Natesan and Co. pp. viii, xxiv, 440 and an index. Price Rs. 4.

There is perhaps no other Indian publication which contains so much information about the war as the Indian Review War Book. Besides numerous portraits, cartoons, maps and diagrams scattered profusely throughout the book, there is a large number of highly interesting articles—reprinted mostly from the Indian Review—dealing with various aspects of the world war—historical, ethical, military and so on. It also contains an examination of the military and naval strength of each of the belligerent countries, together with short biographical notices of the most prominent men in each.

There are some very interesting articles on the economic effects of the war on India. Mr. Alfred Chatterton, Director of Industries in the progressive state of Mysore, reviews the possibilities of developing Indian industries during the war. He is not in favor of starting new enterprises, but would rather "develop those which have passed the experimental stage". Glass bangle making and woollen piece-goods seem to him to offer the best opportunities for successful development. We entirely agree with him in the view "that adequate measures should be taken to provide for the industrial training of the Young Men of India in the country itself." Professors V. G. Kale, Andrew Templeton and Stanley Jevons write on the effects of war on the Indian Trade. Professor Jevons suggests that quite apart from the war we had come in 1913-14 to "the

turn of the tide of trade prosperity", and there would in any case have been a decline in trade and possibly an adverse balance. This is an interesting point, and we wish the Professor had time to work it up more fully. However, the economic aspect is but one of the many phases of war discussed in the pages of this war-encyclopaedia, though unfortunately we cannot pause to review them all. We can only say that the book is really a useful production and does great credit to Messrs. Natesan, one of the most enterprising of Indian publishing houses.

The Arya Samaj. An account of its Origin, Doctrines and Activities, with a biographical sketch of the Founder.
By LAJPAT RAI. London: Longmans & Co. 1915. pp. xxvi, 305. Price Rs. 2-8.

Of all the religious movements of the later 19th and the early 20th centuries, the rise of the Arya Samaj has admittedly been the most important. Within a comparatively short period of about thirty years the movement has spread throughout India, and claimed at the last census no less than almost a quarter of a million people as its adherents. These figures are the more significant when we know that a very large majority of those returned under this head are educated persons with considerable social influence. The movement is not without some economic significance. In so far as it marks an advance over the old rigid orthodoxy of the Hindu, doing away with the long-established caste-system, and other practices which more or less barred the way to progress, it is a factor of some importance in the economic transition through which we are now passing. The educational, philanthropic and social activities of the Samaj, in the way of establishing schools, colleges, orphanages, widows' homes, organizing famine relief, and undertaking conversion and reclamation of the depressed classes, have all a distinct economic element in them. The book under review written, by one who is not only one of the earliest and most active members of the Arya Samaj, but is also a public man of considerable note, has good claim to be read by all interested in the development and progress of India. It is, we believe, the first book in the English language which attempts to present a comprehensive idea of the movement, in all its aspects. The chapters dealing with the life of the founder, Swami Dayananda, are powerfully written, though betraying at times indications of hasty patch-work. The illustrations, of which there are ten, and the bibliography at the end, should add to the usefulness of the book.

GOVERNMENT PUBLICATION

Review of the Trade of India in 1914-15. Published by the Department of Statistics. Calcutta: Superintendent Government Printing, India. 1915. pp. ii, 139, vii. Price As. 12.

The greater part of the year 1914-15 was, as regards trade, a period of complete and world-wide dislocation. The effect of the declaration of war was immediate and far-reaching on the entire world's trade; and as India has been definitely joined as a vital link in the international scheme of commerce, she could not avoid being profoundly affected. As soon, however, as the first shock was exhausted, trade began to adapt itself to the new conditions. Gradually a new equilibrium has been reached, which is in many respects entirely different from the old and normal equilibrium. A review of the trade during this period is, therefore, a matter of the greatest difficulty, and we must congratulate Mr. Findlay Shirras on having accomplished it creditably.

The review is divided into two parts. Part I contains a brief analysis of the extent and direction of India's foreign sea-borne and frontier trade, and of the coasting and inland trade. The year is divided into two well-defined periods—the pre-war period from April to July and the war period from August to March. The chief feature of the pre-war period is that though trade on the whole was prosperous, yet there was a falling off in imports in April, May and July, as compared with the corresponding months of the previous year. This would seem to indicate that the cycle of trade prosperity which had commenced after the crisis of 1907-8, had perhaps already reached its climax in 1913-14, and there would in any case have been a falling off in trade. This introduces a complicating element in an already complex problem; but in order to measure the true effect of the war, it is necessary that we should know exactly what weight to attach to this factor. Mr. Shirras recognises its presence, but does not undertake to calculate what would have been the position in view of this consideration if the year had been normal. Thus we can only say that of the total decrease in foreign sea-borne trade, in the eight months of war from August to March, a very large part was due to the prevalence of war conditions—as to exactly how large this part is, must remain for the present a matter of guess work. Apart from this omission, the book is full of the most interesting information.

In Chapter I the effects of war on imports and exports of merchandise and treasure, and on the balance of trade have been analysed, and it is shown that Indian foreign trade suffered less than might have been anticipated. Chapter II contains an analysis of the figures of trade with certain special countries. The most striking point in this chapter is the rapid increase in our trade with Java and Japan in certain articles. Thus our import of matches from Japan nearly doubled during the war-period of 1914-15, as compared with the corresponding period of the previous year. More remarkable still is the very large increase in Pilsener beer. Reference is also made in this chapter to some of the measures taken by the Government to encourage Indian Trade. Chapters III and IV are devoted to a detailed examination of the trade in some of the principle commodities, while chapter V reviews with justifiable satisfaction the relation between trade and the Indian Currency system. Then follow short chapters on Customs, Shipping and Freights, Frontier, Coasting and Inland Trade. In the concluding chapter is given a very brief resume of the entire report.

Part II contains a large number of statistical tables giving more detailed information concerning all the matters discussed in Part I. Some interesting diagrams have also been added. The review is thus an indispensable publication for every economist.

REVIEWS OF BOOKS

ENGLISH, AMERICAN AND FRENCH

Elementary Principles of Economics, together with a short sketch of Economic History. BY RICHARD T. ELY, Ph. D., Professor of Political Economy in the University of Wisconsin and GEORGE RAY WICKER, Ph. D. Assistant Professor of Economics in Dartmouth College. Revised and adapted for English Students by L. L. PRICE, M.A., Reader in Economic History in the University of Oxford. London: Macmillan & Co. Ltd. 1915. pp. xi, 406.

As indicated by the title, this is a revision by an English economist of a popular American text-book, for the use of English students. The revision has been accomplished by "occasional variations in phraseology, by the substitution of English for American examples, and by the employment of facts and figures which will be more familiar" to English readers. For example "corporations" is changed to "corporations and companies," "wheat bread" to "wheaten bread," and "living" to "livelihood." But "automobile" has not been changed to "motor car." "American" has frequently been changed to "English" and "America" to "England." In some cases statements of a political nature which might prove offensive have been omitted or modified. But far more important is the use of English figures, to illustrate the increment of land values for example; and English illustrations of the localization of industry, of taxes etc., which will certainly make the book more real and vitally interesting for English students. At the same time many American examples have been retained when a parallel English example could not be found, or when they would prove especially instructive. The only extensive change is

the omission of the chapter on the industrial evolution of the United States, and the inclusion of two chapters on English Economic History, before and after the Industrial Revolution. In these the reviser discusses briefly but clearly the Manorial system, the Black Death, the Gilds, and the Mercantile System, the Factory system, the results of Inventions, and other changes, Credit, Pauperism, the Factory Laws, Trade-Unions, Co-operation, Free Trade, and the influence of the English Economists. In the same way a chapter on Revenues in the United Kingdom has been substituted for that on Revenues in the United States. Many of the lists of reference books at the ends of chapters have been omitted.

We have never seen a book which attempted to cover so much of history, finance, and descriptive economics, as well as theory in so small a compass. Under the circumstances it is difficult not to be superficial, and we feel that many of the points made will be missed or misunderstood by the students who are not familiar with the subject. But the book is meant to be used under the direction of a teacher who has read the fuller text-books; and in many cases the exposition is truly remarkable for its combined brevity and clearness. For example, the section on urban rents. The antagonism between the individual and social points of view is emphasized and well developed throughout. The book is admirably arranged for its purpose, with brief summaries and series of questions at the end of each chapter. A number of the questions deal with matters not found in the text, and are likely to lead to much bewilderment and irrelevant discussion, if the class is not carefully directed; but they are designed to make the students think independently, and are well arranged and selected for this purpose. Portions which the authors consider of less importance or of greater difficulty are printed in smaller type. There are only two diagrams, representing diminishing utility and rent, in the large print; and three in the small print. The two former represent the curves of diminishing utility and diminishing returns almost as straight lines, and give no idea of the irregularity of the actual phenomena. The diagram illustrating the economic order of the consumption of various commodities on page 113 is particularly useful in teaching. It may also be used to prove that the utilities of the marginal expenditures on all

commodities tend to be equal; and prices tend to be proportional to marginal utility. Hence the economic importance of a commodity, as the authors call it, is determined by its marginal utility. The diagram of monopoly value illustrates only a special case of decreasing cost of production.

Especially in India the need of such revisions, to suit the requirements of the students of a country different from the author's, is keenly appreciated. We can only hope that other authors will realize the importance of thus transforming their books for other lands, and that some will feel the desire to render a service to India by having their books revised for the use of Indian students. The authors are to be complimented on their realization of this need, and the reviser on the spirit in which he has undertaken and accomplished his work.

An Introduction to the Economic History of England (Vol I. The Middle Ages). By E. LIPSON, M.A. London: A. & C. Black, Ltd. 1915. pp. 560. Price 7s 6d net.

This book is an extraordinarily unequal production. A very cursory inspection suffices to show that there are large tracts where the author's information is thoroughly second rate. On the other hand, it cannot be denied that where the work is original, it is often distinctly good.

The first chapter is the worst in the book. It is really a bald and not very able summary of the various theories which have from time to time been put forward concerning the origin of the Manor. The author contributes nothing of his own, and, worse still, does not seem to have grasped the relative importance of the conclusions of other people. He fails to make the distinction, now long recognised, between the type of Manor prevailing in the South and East and that prevailing in the North and West. His use of the early codes is very amateurish, his quotations from the *Gesetze* infrequent and uncritical. Some of the statements on page 14 are typical of the author's work. He does not know that the Danegeld of 1084 was precisely three times the normal figure. Apparently he is very vague as to the significance of the word "hide" for he starts a calculation by the assumption that the value of the "hide" approximates to 20s per annum: without telling us whether he means the geld hide, or the customary hide. Has he ever heard of *beneficial hidation*? The same inability to handle his rather complicated materials runs

through the whole of the second chapter. The author's ideas of the Manorial system are hopelessly crude. What possible defence can be found for such a statement as the following: "The lord owned the whole estate, but retained only a portion of it in his own occupation." What does Mr. Lipson mean by the lord's "ownership"? On page 34 there is a singular blunder. A work *sine cibo* means a work during the performance of which no food was provided by the lord. To translate the phrase "at their own cost" is pure nonsense. The same curious confusion of thought runs through the discussion on page 37 as to villeinage. The author simply does not realise the distinction between the legal and the practical view of villeinage. Theoretically, of course, a *villanus* was any man who lived in a *vill*. The lawyers declared that all villeins held by servile tenure: but on the other hand it was widely recognised that the villein might be, economically, a very substantial person. To this the lawyer had nothing to say: he was concerned merely with the abstract question. Hence to take the lawyer's opinion as to the villein's status, privileges and disabilities is the height of folly from the economic point of view. Yet this is just what Mr. Lipson tries to do. Only less remarkable than the author's series of mistakes is his ignorance of difficulties. On page 57 he glibly translates the famous *arva per annos* passage as though it were the simplest thing in the world. He does not even support his translation by argument. Does Mr. Lipson not know that the precise meaning of this extremely important passage has been a matter of dispute for 25 years, and is still far from being determined?

But if the early middle ages are obviously not Mr. Lipson's ground, it is plain that the later middle ages have occupied much of his thought. From the third chapter onwards, the book grows steadily better. Particularly noteworthy is Mr. Lipson's work in connection with town life. He has made frequent and excellent use not merely of town records, but also of contemporary songs and poems. His frequent quotations of the actual words of his sources, combined with his apt comments, convey to the mind of the reader an extremely vivid impression of the social, as well as the economic, life of a mediaeval town. His chapters on the Gild Merchant and the Craft Gilds are decidedly satisfactory: his handling of the complicated questions of Foreign Trade is also good. The chapter on Revenue and Exchequer is a good working summary, but contains little that is original.

It is much to be regretted that Mr. Lipson did not spend more time on and devote more space to, his index. It is a meagre seven pages in length, and is altogether dwarfed by a pretentious, uncritical, unclassified, list of authorities, occupying twelve pages. This list, indeed, is such an extraordinary *omnium gatherum* that one is almost tempted to wonder whether Mr. Lipson has followed Cervante's famous recipe.

The Social Problem. BY CHARLES A. ELLWOOD, Ph. D. Professor of Sociology in the University of Missouri. New York: The Macmillan Co. 1915. pp. xii, 255. Price 5s 6d net.

America abounds in professors and chairs of sociology, and some of her professors, have attained a considerable international reputation, and the collective teaching of the American school of sociology has had a vast influence on the national outlook, which is bound to react on the national character. It is a serious and melancholy fact that this influence, taken as a whole, is not good. One is almost justified in saying that the American sociologists have borrowed from the England of the early nineteenth century the hedonistic psychology of the Benthamite utilitarians, combined this with the scorn of moral scruple characteristic of German *Real Politik*, rejecting equally the broad humanity of the English school, and the spirit of devotion to the State of the German, and substituting the gross materialism of the American trust magnate or boss politician. Such a description would of course be exaggerated, and unfair—but not very exaggerated with respect to some of the most prominent and influential leaders of sociological thought, and not grossly unfair.

The special importance of Professor Ellwood as an American sociologist is that from the beginning of his career he has consistently withstood the prevailing tendency among his colleagues. He rejects the hedonistic assumptions with regard to human nature as a basis for sociology, maintaining that sociologists must keep abreast of the progress of psychology. Against the materialist he vindicates the essentially psychic and spiritual nature of the most important social phenomena. Professor Ellwood calls upon his students to go back to Comte, to regard the development of character as the crux of the social problem, and asserts the lines of development necessary to be the predominance of intelligence over mere

instinct, and of altruistic over egoistic impulses; and supplementary to these, the increase of personal and social efficiency.

As Professor Ellwood refrains from attacking, from denouncing and from exposing the doctrines that he desires to combat, there is a certain lack of "bite" about his writing which diminishes its interest for English readers unacquainted with American writers of the hedonistic-materialist-*Real Politik* school. But it is doubtless Professor Ellwood's aim in some measure to replace and supersede the University text-books produced by that school, and thus to bring a more healthy moral influence to bear on the American student of sociology. In this effort we heartily wish him the greatest possible success.

Food Economy in War Time. By T. B. WOOD, Drapers Professor of Agriculture and F. G. HOPKINS, Professor of Biochemistry. Cambridge: The University Press. 1915. pp. 35. Price 6d net.

Much less attention has been given to the investigation of consumption of wealth than to the theory and technique of production. Expenditure on food forms so large a part of the total cost of living incurred by a great majority of the population that the study of how to maintain efficiency with the least expenditure needed to maintain a certain standard of pleasantness or tastiness is of the utmost importance in every country, and not only in time of war. The authors point out that food has two distinct functions: (1) to serve as a source of power, (2) to act as material for the repair of the bodily tissues after the wear and tear which they daily suffer. For the former purpose the value of food can be reduced to its heat-producing power, which is the same whether it be oxidized by the physiological processes of the body, or be actually burnt in the air. The following very interesting table is given of the fuel value required by the average man following different occupations:—

	Heat units (calories) per diem.
Sedentary occupations	... 2,500
Light muscular work	... 3,000
Medium muscular work	... 3,500
Heavy muscular work	... 4,000 or more.

The relative efficiency of various foods, which have been frequently subjected to chemical analysis and heat producing tests, considered in the light of their content of starchy (heat producing) constituents and of their protein (flesh forming) material. The current English retail prices (of about a year ago) are next used to determine by calculation the cost of 1,000 calories (heat units), and of 1 lb of protein, as provided by each of some 80 or 90 different kinds of food. The different classes of foods are then considered separately from many points of view; and the cheapness of certain foods relatively to feeding efficiency is emphasized. The appropriate combination of foods to form a well balanced diet is explained and family budgets of food expenditure are worked out.

Although the book refers wholly to English conditions it is of interest in other countries because of its clear statement of the principles on which the economical consumption of food must everywhere be based. In India the foodstuffs consumed by the mass of the population are mostly different from those widely consumed in Europe. The Indian foods have, however, all been chemically analysed, and it should be possible with no great labor, to apply the methods of this interesting pamphlet to evaluate the most efficient family budgets for the expenditure of different classes on their food.

The Economics of War and Conquest. By J. H. JONES, M.A.
London: P. S. King & Son. 1915. pp. 160. Price 3s 6d net.

This little book is the substance of a series of lectures delivered in Glasgow by the University lecturer on Social Economics during the winter of 1914-5, upon the economic doctrines contained in Mr. Norman Angell's books "Europe's Great Illusion" and "The Foundations of International Polity." Mr. Jones tells us that when he undertook to deliver these lectures he was quite prepared to find Mr. Angell's case irrefutable, and that it was a real disappointment to him to find himself unable to accept the majority of Mr. Angell's doctrines, and quite out of sympathy with his methods of reasoning.

The value which will be put upon Mr. Jones' work will depend very much on the extent to which we regard Mr. Norman Angell's economic fallacies as injurious or dangerous. Mr. Jones does his work in a fairly efficient and workmanlike manner. He is, what Mr. Norman Angell un-

fortunately is not, a trained economist. And if only this book could have been published immediately after "*Europe's Great Illusion*," it would have been most timely and valuable. Coming as it does after the outbreak of the great war, which has in the minds of ordinary readers discredited Mr. Norman Angell's theories even to a greater extent than they deserve, a book written from the other point of view, that of selecting and emphasizing as much as is sound and true in Mr. Angell's writings, would perhaps be more timely. Not that Mr. Jones fails altogether to indicate what is sound—the difference in treatment which is here suggested as desirable, is in the distribution of space and emphasis.

We have said that Mr. Jones is a trained economist, and has done his work in a fairly workmanlike and efficient manner. To that encomium we must add two points of criticism. Firstly, it is notable that one of the first publications issued by the "Garton Foundation" created to further investigate Mr. Norman Angell's views, was a masterly examination of that portion of "*Europe's Great Illusion*" which made the greatest impression in England at the time of publication, *i.e.* the pages that attempted to show that the receipt of the war indemnity after the Franco-Prussian War not only did not benefit Germany economically, but was actually more injurious than the payment of the indemnity was to France. This view is shown by the Garton Foundation pamphlet to be entirely mistaken. Mr. Jones makes no reference to this publication, which should have been of great use to him.

Secondly, Mr. Jones' training as an economist has been on conventional lines, and he works on conventional lines at problems which demand a bolder and more original treatment. He attempts to deal with the real cost of international war by adding up figures of goods and services reckoned in millions sterling. Underlying all such efforts there is the assumption that £1 worth of goods *A* equals £1 worth of goods *B*, or of services *C*. The assumption has a certain truth, but an extremely limited truth; and when we come to bed-rock facts of national existence, methods of analysis and of collection and grouping of facts which deal with sustenance values and units of energies, without any such money equation, are necessary, to say nothing of an appreciation of more intangible but even more vital aspects of national life as the

spiritual attitude of the nation, and its development, by organisation, of an effective common will.

It is rather curious that between his first three chapters, and his last three, all six of these being devoted to Mr. Norman Angell, Mr. Jones inserts a central chapter on the "Immediate Financial Effects of the War." This chapter is the most interesting in the book, but its insertion makes the book as a whole appear disjointed.

The Law of Contraband of War. By H. REASON PYKE. Oxford : The Clarendon Press. pp. xxxii, 314. Price 12s 6d net.

The text of this book was in print before Sir Samuel Evans delivered his judgement in *The Kim and other Ships* (1915) p. 215 and before his publication of the United States note of November 5th, 1915, which raised difficult questions as to the exercise of the right of search and the nature of evidence receivable in Prize cases. Mr. Pyke has given in his preface a very clear summary of the points decided by Sir Samuel Evans but has not done more than refer to the United States note. His book is to that extent imperfect, though, with new questions of International law arising almost every day, it is hardly fair to blame him for that. He probably thought that it would hardly be worth while to examine the objections put forward by the United States until the answer of the Allies was forthcoming; and that, if he had waited for it, some other question would probably have arisen in the meantime.

The book before us gives a very instructive history of the doctrine of contraband and a lucid exposition of the principles upon which it has been applied. The former is in our opinion the more valuable portion of the book. Beginning with the Papal prohibitions against supplying the infidel with materials for war, the rule gradually grew up that a belligerent is entitled to prevent neutrals from aiding his enemy by selling to the latter articles susceptible of use in war, but that he cannot, apart from express convention, expect that the Government of a neutral state shall give him assistance in stopping the trade. He must stop it himself if he can. Mr. Pyke shows that at one time it seemed likely that another rule would prevail and that a neutral Government would be

bound to prevent its subjects from selling materials of war to either belligerent. Such a contention was indeed put forward by Prussia in the war of 1870 and has been advanced by German sympathisers in the United States during the present war, though not, apparently, with any great hope of success. Another and a more acute difference of opinion prevailed with regard to conditional contraband. The distinction between things useful only for war and articles which could be applied either to peaceful or warlike purpose was recognised by Grotius, who held that though articles of the latter kind (*res ancipitis usus*) might lawfully be captured, they should either be paid for or restored to the owner when it was no longer necessary to prevent them from reaching the enemy. The English practice of pre-emption which Mr. Pyke states to have been applied during the present war, is in harmony with the rules laid down by Grotius though it has been attacked by a certain school of continental jurists who hold that the doctrine of conditional contraband is wrong. The rejection of the doctrine has in practice had the effect of inducing continental nations to extend their list of absolute contraband and thus to treat neutral traders with more harshness than did the English and American Prize courts. A comparison of the contraband lists of all the belligerents in the present war, (see the *Journal of Comparative Legislation*, new series No. XXXIII: pp. 225, *et seq.*) shows, however, that the principle of conditional contraband is now fully accepted.

Mr. Pyke explains very clearly the doctrine of continuous voyage and continuous transport with relation to contraband and points out that the first case of the kind was decided by the French Prize Courts in 1855, and not, as is generally supposed, by those of the United States, though the latter appear to have arrived at the same conclusion independently of the French decision, and a much earlier decision of the American Courts (The *Commereen* decided in 1816) shows that they were quite ready thus to apply the rule if occasion had arisen.

Mr. Pyke's exposition of the principles upon which the doctrine of contraband has been applied is useful for the purpose of enabling the reader to understand the points now at issue between the United Kingdom and the United States, but the points themselves are new, arising out of new conditions, and cannot be solved by an appeal to precedent and as

we have already said, Mr. Pyke does not attempt a detailed examination of them.

English Railways, their Development and their Relation to the State. BY EDWARD CLEVELAND-STEVENSON, M.A.
London: George Routledge & Sons. 1915. pp. xvi, 332.
Price 6s. net.

This book describes in detail the continuous process of amalgamation, up to the year 1900, which has resulted in the present railway system of England. The author is the Shaw Research Student of the London School of Economics, and his study of the question was carried on in a special library collected there for the purpose of railway research—the Acworth Transport Collection. He seems to have read all the authorities on the subject, official and non-official, with patience, care and judgment, and has produced a really valuable work, which will, we think, be found indispensable by every student of English Railway History. Mr. Cleveland-Stevens goes back to the earliest beginning of railway construction in England, and traces step by step the whole movement of consolidation in its external aspect—i.e., in its relation to railway communication in general, to the views of Parliament and of the public, and also to Parliamentary control.

The first instance of railway amalgamation is to be found in the union of the Wigan Branch Railway Company with the Wigan and Preston Railway Company. This occurred in 1834 and proved advantageous. In 1846—the central year of a most critical period in railway history—no less than 272 railway Acts were passed, including twenty acts for amalgamation and nineteen for purchases and leases. It was about this time that George Hudson—the “Railway King”—came to the front. He appears as the leading figure in the dramatic happenings of this eventful period—1840-53—in the history of English railways. During this period too were first appointed a number of Parliamentary committees to investigate the question of amalgamation, for the process began to be viewed with some apprehension as a means of creating monopoly. James Morrison urged strongly the establishment of state control, for he held that “railroads must naturally be a monopoly.” In 1844 Gladstone sought to give the state a direct control but failed, the Act eventually passed being but a “mutilated offspring” of his

original bill. In 1846 Parliament attempted to establish a permanent controlling body for railway matters, but not with much effect, and in 1847 came the great "railway crisis" resulting in an entire suspension of railway promotion for more than five years. Cardwell's Committee of 1853 which prohibited amalgamation except in minor or special cases "marks the change from the complaisance of the forties to the hostility with which amalgamation has since then been generally viewed," but practically its recommendations had little effect; consolidation, though on smaller scale, still went on till 1871. In 1872, however, big amalgamation proposals were put forward, which were ultimately all refused. The Act of 1873, based on a parliamentary inquiry into the schemes of the previous year, established a Railway Commission "to improve the machinery by which complaints against railways were redressed". The Commission, however, was at first only temporary and did not become of any great importance till it was made permanent by Acts of 1888 and 1894. Some big consolidations took place between 1871 and 1900, notably in the South-West and South-East of England. In 1900 the position was this. England had a fairly comprehensive railway system, controlled practically by eleven companies. Mr. Cleveland-Stevens is inclined to think that the effect of consolidation has generally been to reduce charges, and that any further reduction in the number of companies is likely to have beneficial results.

In a concluding chapter he touches on the question of nationalization. The process of consolidation of railway ownership and working is by no means complete yet and as further concentration takes place, it will become easier, and more necessary—perhaps inevitable—finally to amalgamate all the companies into one state-system. He is doubtful, however, if nationalization can be possible under the present parliamentary system of government. He believes that an independent Railway Board, if it could be brought into existence, would provide the best solution of the problem. In most parts of the book, however, the author is content with the presentation of facts, avoiding comment as far as possible. The chief value of the book therefore, lies in its convenience as a reference book; and as such we have no doubt that it will be found useful by students of railway economics. We are glad to

note that it has been approved as a thesis for the degree of Doctor of Science (Economics) in the University of London.

The Principles of Rural Credits. By JAMES B. MORMAN, A.M. With an Introduction by John Lee Coutler, Ph. D. New York: The Macmillan Company. 1915. pp. 296. Price 5s. 6d. net.

This excellent little book is one of the best in "The Rural Science Series." It deals with the methods of financing successfully the class of men who have always and everywhere to borrow, *viz.*, the agriculturist farmers. The subject is of general interest and has recently attracted considerable public attention in the United States of America—so much so that Congress appointed a Commission known as the United States Commission on Rural Credits. The Report of this Commission has been published in an immense volume¹ crammed full of authoritative papers and documents, which is, however, beyond the reach of the average citizen, because of its limited issue. To popularise the contents of this Document Mr. Morman has compiled this little volume on "The Principles of Rural Credits." In it the author sets before the American people the most reliable information on the subject of "rural credits" that is available, in order that a sound system of credit may be established in America for all classes of American farmers. Hence the book naturally falls into two parts: the first part to set forth the information, the second part to show how it may be applied in formulating a credit system for American farmers.

The first part, dealing with the methods of financing farmers in European countries gives us a most lucid treatment of the Continental Co-operative theories and practices. In the first four chapters of the first part the author traces the origin of the short term personal credit system to the efforts of Raiffeisen and Schulze-Delitzsch whose theories and principles are fully examined and explained; and then the different ways adopted by European farmers to provide themselves with personal credit, as well as the methods of supplying Government aid, are carefully reviewed. The remaining chapters of the first part are devoted to a description of the system of Co-operative, and Non-Co-operative Farm Mortgage, or the Long-time Credit systems of the Continent. Notwithstanding their importance, advantages and merits, the Co-operative

¹ Senate Document No. 214, Sixty-third Congress First Session.

Farm Mortgage Associations or the "Landschaften," as institutions operated by and in behalf of farmers for financing their industry on a long-time basis, have practically been limited to Germany in their field of operations. Besides the successful means German farmers have adopted for promoting Co-operative Mortgage Credit, various non-co-operative (sometimes state-endowed) mortgage banking institutions in many European countries have aided the development of agriculture by granting long-time loans on farm properties. The methods practised by these banking institutions are therefore reviewed at length in chapters VI and VII of the book.

In the second part of the book the author gives us a constructive credit system for American farmers based on the experiences of European countries. He advocates—(1) the organization of farmers into co-operative societies with the help of State laws, (2) protection of farmers against usurious conditions, (3) State long-time loans on first mortgage at reasonable rates of interest, (4) the adoption of a more rational and less expensive system of land registration, and (5) an educational propaganda by the U.S.A. Government on the principles of agricultural co-operation and on the proper use of credit.

Though Mr. Morman has designed his book for American readers, we think it will also be of considerable interest to the general reader and particularly to the Indian co-operator to whose library it would prove to be a valuable addition.

PRINCIPAL CONTENTS OF FOREIGN JOURNALS

ECONOMIC JOURNAL

(Quarterly Journal of the Royal Economic Society. London:
Macmillan & Co. Ltd.)

MARCH, 1916

WAR ARTICLES:

Ways and Means, by Prof. H. S. FOXWELL.

Should we capture German Trade? by Sir HUGH BELL.

The Dilution of Skilled Labour, ANON.

The Provisioning of France and Measures to that End, by
C. GIDE.

German War Finance in 1914, by A. LOVEDAY.

German Potato Policy, by MARY STOCKS.

The Present Situation of the Foreign Exchanges, by Prof.
G. CASSEL.

REVIEW ARTICLES:

Friedrich List: The Prophet of the New Germany, by
Prof. J. S. NICHOLSON.

Report on British Industry after the War, by Prof. E. CANNAN.

Reports on Home Production of Food, by C. S. ORWIN.

Recent Memoranda on Railway Topics, by W. M. ACWORTH.

THE JOURNAL OF POLITICAL ECONOMY

(Published Quarterly by the University of Chicago, U. S. A.)

FEBRUARY, 1916

War Finance and American Business, by H. J. DAVENPORT.

American Security Prices and Interest Rates, by W. C.
MITCHELL.

*The Nature of Demand for Agricultural Products and Some
Important Consequences*, by J. G. THOMPSON.

NOTES—*A new Rural Credit Plan—Banking Opportunities
in South America.*

MARCH, 1916

The Changing Basis of Economic Responsibility, by P. MAURICE CLARK.

The Westinghouse Electric and Manufacturing Company, The General Electric Co., and the Panic of 1907 I., by NILES CARPENTER, JR.

The Settlement of Disputes under Agreements in the Anthracite Industry, by E. SYDENSTRICKER.

Agreements between American and European Molders Unions, by F. T. STOCKTON.

THE AMERICAN ECONOMIC REVIEW

(Published Quarterly by the American Economic Association,
Secretary—Prof. A. A. Young, Ithaca, N. Y.)

MARCH, 1916

The Comparative Yield on Trade and Public Service Investments, by J. E. STERRET.

The Standard of Living—Up or Down? by HENRY PRATT FAIRCHILD.

The Tariff and Ultimate Consumer, by HARVEY A. WOOSTER

The Farmer's Income, by E. A. GOLDENWEISER.

The Influence of Speculative Marketing upon Prices, by ABBOTT PAYSON USHER.

Russian Land Reform, by RICHARD T. ELY.

Depreciation Reserves as affected by Property Growth, by L. R. NASH.

JOURNAL OF THE ROYAL STATISTICAL SOCIETY

(9, Adelphi Terrace, London.—Eight issues each year)

MARCH, 1916

The Register of Belgian Refugees, by T. T. S. DE JASTRZEBSKI,
(With Discussion)

On the Statistical Enquiries needed after the War in Connection with Eugenics, by MAJOR LEONARD DARWIN, Sc.D. (With Discussion)

Prices of Commodities in 1915, by SIR GEORGE PAISH.

Reviews of Books—Current Notes.

BOOKS RECEIVED

- A Study of Industrial Fluctuations.* By DENNIS H. ROBERTSON. London: P. S. King & Son, Limited. pp. xiii, 285. Price 7s. 6d. net. (To be reviewed).
- The World's Cotton Crops.* By JOHN A. TODD. London: A. & C. Black, Limited. 1915. pp. xii, 460. Price 10s. net. (To be reviewed).
- Agricultural Industries in India.* By SEEDICK R. SAYANI. 2nd Edition. Madras: G. A. Natesan & Co. pp. vi, 91. Price Re. 1. (To be reviewed).
- The Law of Contraband of War.* By H. REASON PYKE, LL.B. Oxford: Clarendon Press. pp. xxxli, 314. Price 12s. 6d. (Reviewed herein).
- The Study of Indian Economics.* By N. M. MOZUMDAR, B.A., B.Sc. Bombay: Pub. by author, Sydenham College of Commerce. pp. 28. Price As. 2. (Reviewed herein).
- Fourth Annual Report of the Social Service League.* Edited by N. M. JOSHI. Bombay; Servants of India Society's Home, pp. 50.
- Co-operative Credit in Gwalior State.* By ALAKH DHARI. Pub. by author. Upper India Bank, Meerut. 1915. pp. 143. (To be reviewed).
- The Great Railway Freight-Car Problem, and its Cheapest and Best Solution.* By H. W. PERRY. Madras: Lawrence Asylum Press. 1907. pp. 101. (With pamphlet on Railway Waste)
- Village Government in British India.* By JOHN MATTHAI. London: T. Fisher Unwin, Ltd. 1915. pp. xxiii, 211. Price 4s. 6d.
- Selected Reports on Fibres, Gums, Resins, Foodstuffs, Rubber, Oil-Seeds, etc.* Issued by the IMPERIAL INSTITUTE. London: for H. M. Stationery Office—Wyman & Sons, Ltd. 1914. pp. 595, vi.
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- Patna College Chanakya Society: Sixth Annual Report, 1915-16.* Calcutta: The Kuntaline Press, 61, Bowbazar St. 1916. pp. 98.
- La Finanza della Guerra.* By LUIGI EINAUDI. Torino: Società Tipografica. 1914. pp. xxxi, 351.
- Intorno al Concetto di Ceditto Imponibile.* By LUIGI EINAUDI. Torino: Vincenzo Bona. 1912. pp. viii, 150.

INDIAN JOURNAL OF ECONOMICS

September 1916

THE INDIAN INSTITUTE OF SCIENCE—BANGALORE

THE HON'BLE SIR FRANCIS J. E. SPRING

K.C.I.E., M.I.C.E., M.I.MECH.E.

CHAIRMAN, MADRAS PORT TRUST

Having served on the Special Committee appointed three years ago by the Patron (His Excellency the Viceroy) to enquire into and report on the affairs of the Indian Institute of Science, and since the conclusion of that enquiry having been a Member of its Council, and only recently resigned therefrom, the writer is in an exceptionally favourable position for offering to the public a true report—in correction of certain ill-informed reports that have appeared in the press—of the progress and aims of the Institute and of the reasons for the making of certain recent changes in its personnel, the wisdom of which has been questioned in some quarters. Were he to attempt to tell the whole story of the Institute's origin and aims the writer would

find it easiest to quote in full the Government of India Home Department Resolution No. 434-448, dated Simla the 27th May, 1906, as well as the 'Vesting Order' and other documents thereto appended, including the Scheme for the Administration and Management of the properties and funds of the Institute. Instead of quoting documents occupying some twenty quarto printed pages of the Institute's records, it must suffice here briefly to state that in the year 1898, on the initiative of the late Mr. Jamsetjee Nusservanjee Tata, a public-spirited and far-seeing merchant prince of Bombay, the scheme of the Institute grew by degrees into its present form, the Tata estate providing about a lakh and a quarter annually out of the Rs. 2.66 lakhs per annum that have since been found to be necessary for the ordinary working expenses of the Institute even in its present stage of development. The 371 acres of land at Hebbal, near Bangalore, on which the buildings of the Institute now stand were made over free to the Governor-General in Council by his Highness the Maharajah of Mysore on the 14th December 1907, for exclusive management and free jurisdiction so long as such lands should be used for the purpose for which they were assigned. The management of the Institute vests in:—

- (1) The PATRON AND VICE-PATRONS: His Excellency the Viceroy of India *ex-officio* patron, and the Heads of Local Governments for the time being *ex-officio* vice-patrons.
- (2) The COURT OF VISITORS: some 40 or 50 persons, appointed in groups of 1 to 10 as representing various interests, and holding office for five years.
- (3) A COUNCIL: of about 12 members, forming the actual executive governing body of the Institute, each member holding office for three years.

- (4) A SENATE: consisting of the Institute's educationalists.

The administration of the Tata properties in Bombay, from which nearly half of the Institute's present income is derived, is vested in a Board of Management consisting of the Collector of Bombay, a representative of the sons of the late Mr. J. N. Tata, and a merchant of high standing to be nominated by the Government of Bombay and resident there. The Court of Visitors being an inconveniently large and scattered body of persons, is represented for business purposes by a Standing Committee of four, nominated respectively by the Patron, the Governments of India and of Mysore and the Tata sons or descendants. The Standing Committee controls all proposed extraordinary expenditure over and above the usual budgetted recurring expenditure, advising the Patron thereon, who in his turn sanctions or disallows it. The Director of the Institute—who may or may not hold a professorial chair—acts as its Recorder and has charge of all its documents other than those appertaining to the Bombay properties. He also is the medium of communication between the Council and the Senate, between the Council and the Patron or Vice-Patrons, between the Council and the Court of Visitors and between the Court of Visitors and the Patron. The Standing Committee of the Court of Visitors may also communicate directly with the Patron. Subject to review by the Council the Senate has charge of the general regulation of teaching and research, within the Institute, and may report to the Council, or through the Council to the Patron, Vice-Patrons or Court of Visitors, upon any matter connected with such teaching and research.

It would be out of place in such an article as this to attempt to explain in any elaborate detail the scheme of the Institute, its finances and its history. All this

has been done very thoroughly already by its first Director, Dr. Morris W. Travers, D.Sc., F.R.S., in his first annual Report to the Council dated the 14th July 1910. The Scheme had previously been reported on twice, once by the late Professor Sir William Ramsay of University College, London, in or about the year 1899, and again in 1901, by Professor Masson of Melbourne and Lt-Col. Clibborn, R.E., Principal of Roorkee College. But as, on both of these occasions, the financial resources available for building and for working were believed by the reporters to be considerably smaller than later has proved to be the case, comparatively little interest now attaches to these earlier essays. As regards the intended scope and aims of the Institute the original proposal of Mr. J. N. Tata, which came before the Government of India in 1899, was that it should be "an Imperial Teaching University, destined to promote original investigations in all branches of learning and to utilise them for the benefit of India, and empowered to confer degrees on Indian graduates who completed their studies with credit, and to select the best students for further training in Europe and America". According to the original plan, the subjects proposed for research were to be distributed amongst three departments:—

- (1) A Scientific and Technical Department, embracing Physics and all branches of Chemistry including its applications to Agriculture, Arts and Industry;
- (2) A Medical Department, dealing with Bacteriology, Hygiene, and Physiological and Bacteriological Chemistry; and
- (3) A Philosophical and Educational Department, including methods of Education, Ethics and Psychology, Indian History and Archaeology, Statistics and Economics and Comparative Philology.

However, for giving effect to so ambitious a scheme the funds at the time in sight proved to be utterly inadequate.

In his turn Professor Ramsay contemplated not only the teaching of general Chemistry, Engineering Technology, Electric Technology, combined with General Physics and Industrial Bacteriology, but also the development of new industries by means of experimental works to be started in connection with the Institute by the members of the teaching staff assisted by the students. Government, however, as then (the writer thinks ill-) advised, was of opinion that "the idea of combining in one institution, and entrusting to a single staff of professors, both the teaching of science and the experimental development of new industries was open to the obvious criticism that these two objects were in no way connected with one another, and might indeed be regarded as almost irreconcilable", inasmuch as "the former requires the speculative faculties of the student" while "the latter depends for its success on the practical instincts of the man of business". Government therefore called upon the Masson-Clibborn Committee to draw up a less ambitious scheme more in keeping with the then financial conditions, and they in their turn, in due course, putting aside as impracticable Sir William Ramsay's proposal that the Institute should attempt to found and develop new industries, recommended that it should devote itself "to experimental science, and should aim at training students in experimental methods, carrying on original research, and discharging the functions of an accepted authority and reference on all scientific problems arising within its own domain". They contemplated an expenditure of only about Rs. 6½ lakhs on buildings and Rs. 1½ lakhs per annum on working expenses.

However the whole aspect of affairs changed when the Mysore Government generously promised Rs. 30,000 per annum, subsequently raised to Rs. 50,000, and the Government of India promised Rs. 87,500 per annum potentially rising to Rs. 1,50,000, thus, with the Rs. 1,25,000 from the Bombay properties, making available for the working of the Institute an income of Rs. 2,62,500 as compared with the Rs. 1,75,000 which was all that had been contemplated by Sir William Ramsay. For initial or capital expenditure Rs. 5,00,000 were contributed by the Government of Mysore, Rs. 2,50,000 by the Government of India and Rs. 1,50,000 by the Government of Madras. Thus it became possible, after eight years of talking, to make a start; and things began to move when at the end of 1906 Dr. Morris W. Travers, D.Sc., F.R.S., Professor of Chemistry at the University College, Bristol, was appointed to be the first Director. Being a man of quite exceptional zeal, versatile ability and devotion to duty as well as of an extraordinarily strong personality with immense driving power, Dr. Travers soon had a teaching scheme drawn up, plans and estimates ready, and the work of construction well in hand, and by the middle of the year 1910 was in a position to write his first annual report.

Meanwhile a certain amount of delay had occurred before the Council was adequately constituted; and in the interim, between March 1908 and May 1909, the business was carried on by a certain Provisional Committee and, during the year from May 1909 to May 1910, by a part only of the regular Council which was not completely constituted until the last named month. By this time it had become clear to all concerned that the available income—then well below three lakhs per annum—as well as the available capital would be quite inadequate for giving effect to the

original intention of Mr. J. N. Tata that the Institute should include a Medical Department and a Philosophical Department, in addition to its Scientific and Technical Departments. The new Director's scheme therefore, accepted duly by the Council, provided for six interdependent departments forming jointly a Faculty of Pure and Applied Science. It was on this basis that, as time went on, successive plans for the buildings and designs for their equipment, and successive estimates of the capital and working outlay were framed; and so it came to pass, partly owing to early lack of knowledge of local working conditions, but chiefly to its not having at first been realised that a certain standard of construction and of equipment would be needed for proper teaching—that the construction estimates rose from the 6½ lakhs contemplated by the Clibborn Committee through the 12-lakh estimate laid before the Provisional Committee in 1908, to an estimate amounting to 19 lakhs submitted to the Council by the Director near the end of 1909. Dr. Travers showed that, in order to meet this unexpectedly large capital outlay, the savings on the annual income in the earlier years, added to the sums that had been specially provided for capital expenditure, might be expected to suffice for the provision of 18 lakhs towards the 19 estimated at that time as the probable cost of the buildings and their equipment.

The buildings then estimated, and since—with the exception of the library and some of the smaller staff quarters—brought practically to completion, consist of (a) the great central double-storey block to contain the library of the Institute, its Council room and offices, and accommodation for two Departments; (b) laboratories of General, Organic and Applied Chemistry, and Electricity; (c) 36 units of quarters for students with mess rooms, store rooms and kitchen; (d) houses for

the resident staff; and (e) Gardens, roads, water supply, gas, electricity and sanitation. For the purposes of the present article it may suffice to say that, with the aid of a further grant of 4 lakhs made in September 1915 by the Government of India, the sum of just over 22½ lakhs had been allotted to capital account by the end of the year 1915-16—roughly as follows:—

(a) Central building and its equipment (unfinished, another 2½ lakhs yet to be spent on it)	...	...	Rs. 5,91,000
(b) Laboratories, equipped.	...	...	7,37,000
(c) Students' quarters	...	...	1,75,000
(d) Staff quarters	...	...	4,59,000
(e) Everything else	...	...	2,91,000
Total			22,53,000

Now there has been a great deal of captious criticism of this capital expenditure which has been characterised as wasteful and extravagant. But in the belief that he is entitled to a hearing on this point the writer ventures to deny in a general way the justice of these criticisms. Even if—as seems probable—the completed buildings will have cost Rs. 25 lakhs, or say £170,000, by the time they are finished, reference to the statistics of the cost of similar institutions and colleges, having like aims, in England and America will be found to show that the sum in question is very far from being abnormally large. During the sitting of the "Special Committee" in 1913 the writer analysed the cost of the buildings carefully, comparing them with more or less similar work done by himself and others, and he can say with confidence that, in unit cost—that is in cost per sq. ft. of plinth or per cubic ft. of all-over volume—the buildings are not of an extravagant character. It may of course be claimed that houses which cost 72, 58, 48, 46 or even 33 thousand rupees are somewhat extravagant houses to build for professors with salaries varying from Rs. 2,500 down to Rs. 1,200 per mensem. That may be true enough, from the P. W. D. point of view, for

houses intended for a number of successive occupants, each with a one to five-year tenure; but here we have to provide for people intending to spend more or less a lifelong career on the spot, and the writer is not prepared, knowing every room of each of the houses, to say that, except perhaps the two first of them, they have been built on an extravagant scale. Certainly the laboratories are not either built or equipped extravagantly. The writer makes no pretence to be an expert in laboratories, but as it happens it once fell to his lot to advise a home university in regard to them, and to have seen the buildings later when built and equipped, and he would express the opinion, in all modesty, that the laboratories and their equipment of the Indian Institute of Science are, certainly, not on an extravagant scale. The central library, now approaching completion, estimated to cost when finished Rs. 7,53,000, or complete with all equipment Rs. 8,37,000, will be a fine building enough—and why shouldn't it be? But, for its class, it is not an extravagant building. Do the critics propose that a structure of the sort, intended to house the chief scientific library of India for generations to come, should be built of mud bricks with a palm-leaf roof, or what? The students' quarters are quite adequately adapted for their purpose and very far at the same time from being extravagant. However, there are some people who make a perfect fetish of the *Estimate*, seeming in a sloppy, unthinking kind of way to assume that the man who made it was possessed of some superior and esoteric knowledge, and especially that he knew better than the subsequent constructor what the work was going to cost. The worst of making a fetish of the estimate is that, once blamed for exceeding it, the estimator will be liable—poor human nature being what it is—to take very good care not to do so again, by the simple device of making his future estimate big enough

more than to cover his lack of prophetic intuition ; and thus, in the long run, the effect will be that the cost of works will always have a tendency to rise. In view of these considerations the writer does not propose here adversely to criticise the excess, in the case of the Indian Institute of Science, of the actual cost of the works as executed over their supposed cost as estimated. All that he finds for criticism is the fact that two or possibly three of the houses have perhaps been built more expensively—that is more roomy—than is usual in the case of the residences of Indian officials of corresponding salaries.

Having said all that he intends to say in the matter of the criticism so often applied to the Institute to the effect that its buildings have been conceived on a wasteful scale the writer proposes to review certain recent appointments to fill the places of Dr. Travers and Professor Rudolf who resigned at the end of the 1913-14 session. It may be mentioned here that, pending the appointment of a new Director, Dr. Alfred Hay, D.Sc., M.I.E.E., Professor of Electric Technology, was carrying on satisfactorily the duty of acting Director of the Institute. The problem before the Council—a very difficult problem in war time, when most of the available scientific chemists in England were needed for ammunition work or to fill the places of others so engaged—was to secure for the Institute the services of a gentleman to serve as Director and at the same time to hold the chair of Applied Chemistry. For the Council had made up its mind that this was likely to be the most important chair if the initiation and development of Indian industries was to be aimed at. The chair in question had previously been held by Professor Rudolf while that of General Chemistry had been held by Dr. Travers, and it was felt by the Council that, in view of the aims of the Institute, it would be preferable

that if possible the former chair and not the latter should in future be held by the Director. Therefore, at an extraordinary meeting of the Council held on the 11th January 1915, it was agreed that the most urgent need of the Institute was the appointment of a thoroughly efficient professor of Applied Chemistry, but that it was also desirable that the holder of this professorship should serve as Director, provided the Council were satisfied of his administrative abilities. The result of this agreement was a resolution to the effect that, "early steps be taken to appoint a Director on a salary to be fixed at some figure between Rs. 2,000 and Rs. 3,000 per mensem, according to qualifications, and that, in accordance with the provisions of the Regulations of the Institute, a Committee be appointed in England to invite applications for the post and to recommend suitable candidates to the Council". The Resolution went on to say that "the person appointed will be expected to possess administrative experience and executive ability, and must be qualified to fill the chair of Applied Chemistry". In due course the English selection Committee made such enquiries as were necessary and practicable and sent up certain names for selection by the Council. As a fact the Committee's choice had been greatly restricted because of war conditions and the result was that, after careful consideration, the Council, who had a very clear idea of what they wanted and did not quite see it in any of the nominations made by the Committee, decided to "abandon the attempt, at any rate for the present, to combine the Directorship with the Professorship of Applied Chemistry". Here, obviously, there was need for very careful consideration of the position. Clearly the Institute had somehow to be kept going efficiently, not only in its strictly professional path but also in its general administration. For what with the change

of Directors, temporary troubles with contractors, alterations of the system of accounts and so on, undoubtedly there was a strong need that, for a while at least, its general business management should get into an experienced administrator's hand and that its accounts should be framed in a form that not only might be relied on to enable the Council to have a proper grasp of expenditure and income, at sight, but also might be trusted to move along on a regular system, mechanically as it were, for the use, in administration, of a body of busy men, such as for the most part were those composing the Council. It was obvious that the due control of administrative work of this peculiar character could not at the outset be fairly expected from an industrial chemical expert new to the country, to the Institute and to Indian conditions. He would indeed have to be a superman, satisfactorily to tackle both jobs—at least just at first and until the routine of administration had settled down into a groove.

Influenced by these considerations the Council came to the important decision to get the English Committee contemplated by the Regulations to induce Sir Alfred Bourne, K.C.I.E., M.A., D.Sc., F.R.S., to accept the Directorship, without a chair, on a salary of Rs. 2,500 a month for three years, and to find a suitable nominee for the chair of Applied Chemistry. The necessary resolutions to give effect to this decision were passed at an extraordinary meeting held in Ootacamund on the 31st May and 1st June 1915, and in these, as well as in a memorandum which accompanied them home, a further attempt was made to convey to the English Committee a clear idea of what it was exactly that the Council had in mind. In order, however, to give better effect to their views, the Council asked the English Committee—in which the academic element appeared to them to be perhaps unduly

strong—to add to their number Mr. H. A. Humphrey, M.I.C.E., M.I.M.E., M.I.E.E., best known to the practical public as the inventor of the “Humphrey pump” which has revolutionised a part of the problem of dealing with water and with sewage. The Council passed a Resolution to the effect that “in view of the evident difficulty, at the moment, of filling suitably the Chair of Applied Chemistry and the Directorship of the Institute, the Committee be asked to” nominate Sir Alfred Bourne for the latter position, as above stated, and in the event of his refusal—indeed he had already refused unofficially by wire—to proceed with the selection of candidates for the chair of Applied Chemistry only, on a salary of Rs. 1,500-100-2,000 per mensem; “also that it be clearly explained to the Committee that the expert of whom the Council are in search as professor of Applied Chemistry might better perhaps be described as a Chemical Engineer with expert knowledge of at least one branch of manufacturing chemical industry”. After naming certain well known gentlemen in England (not likely, however, to come out) as examples of the class of scientific and technical expert which they had in mind, the Council went on to say, in their Resolutions, that “the selected expert must possess scientific qualifications and it is also essential that he should have had practical experience of manufacturing chemical engineering and of the plant, etc., necessary for the successful commercial manufacture of at least one important product. He ought to know where to go for such plant for other industries than his own special one, and ought to know how to set about engaging the expert assistants whom the Council hopes to employ from time to time in the Applied Chemistry Department as successive efforts are made to inaugurate, by means of practical research, various manufacturing processes”. It may be mentioned that, in view of the

momentous decision then arrived at—namely, to secure the best obtainable Professor of Applied Chemistry and temporarily to engage a business Director without a chair—it seemed well to the Council to have a joint meeting with the Standing Committee of the Court of Visitors, for a talk over these and other matters, and such meeting was held, greatly to the advantage of a mutual understanding, on the 1st of June 1915.

As the press of India has had no first-hand knowledge of these proceedings, it cannot perhaps be wondered at if some of the papers jumped at the belief that a "job" had been perpetrated in offering the Directorship to a retired official of the Indian Educational Service who, though a Fellow of the Royal Society, yet was known to lack the special experience likely to be needed for the actual teaching of processes and principles relied on for the practical development of the industrial movement. As explained, what the Council wanted primarily was the best manufacturing chemical expert obtainable, hoping at the same time that, later, he might prove himself competent to assume also the duties of Director; and, secondarily, a good business man, with Indian administrative experience, for a couple or three years while the new professor was proving himself, so that the general business mechanism of the Institute might be organised in such a way as to enable the busy men forming its Council to administer it satisfactorily and intelligently. It may suffice here to say that Sir Alfred Bourne took charge as Director on the 12th October, 1915, and up to the time of writing has done valuable service to the Institute in regulating and standardising its business methods and its records; and that Dr. Gilbert John Fowler, D.Sc., F.I.C., F.C.S., having been nominated by the English Committee as the best man obtainable, was appointed by the Council to the chair of Applied Chemistry and joined on the

16th February, 1916. Although valuable to the Institute chiefly because of his great administrative experience gained while Director of Public Instruction, Madras, Sir Alfred Bourne is also a scientist, endowed with the research sense that does not necessarily go with educational and administrative experience. He is in full sympathy with India's industrial aims, and his appreciation of her economic needs and conditions is based on a full career of experience. These qualifications, as well as the weight which his recommendations cannot fail to carry with Indian rulers and administrators—holders of the purse-strings—may be relied on fully to justify his appointment to stand at the helm of the Institute during the next couple of years, while it is feeling its way through the shoals and other difficulties that beset its departure on its voyage of discovery for the benefit of India's economic development. The writer hopes that it will not be considered an impertinence if he says that, so far as it can judge, the Council has had every reason to believe that whenever it suits Sir Alfred Bourne to terminate his engagement for such reasons of his own as may have instigated his first refusal of it, the work falling to the Director will have become so comparatively simplified, owing to the completion of the capital expenditure, and so on, that some one or other of the Professors—Dr. Fowler or another—will find it easy to combine the Directorate with his professorial duties. In the special mention of Dr. Fowler's name there is no intention of suggesting anything derogatory of other professors who up till now have served and continue to serve the Institute so efficiently; but the majority of the Council have held the opinion that, for the Directorship, academic and teaching experience are less requisite than special experience of practical work under practical commercial conditions, combined with the scientific

training which a Professor of Applied Chemistry, selected on the lines laid down for the guidance of the English Committee, might be expected to bring to the service of the Institute. It was indeed this consideration which made it impossible for the Council to consider seriously the claims urged by a section of the Indian Press in favour of certain eminent Indian scientists, who must necessarily be more or less out of touch of the influences relied on by the Council for the future successful conduct of the affairs of the Institute and for the pursuit of some of the most important of its aims.

Here a brief explanation of the financial position of the Institute may not be out of place. Such explanation would not have been possible but for the summaries which, at the cost of great labour, Sir Alfred Bourne has prepared of the whole of the capital and revenue expenditure since the commencement. In order to enable these summaries to be prepared the Council wisely decided to lay down an authorised set of heads and subheads of accounts—as is done in the case of the whole of the Indian Railways—not to be departed from except under its express authority. Similarly a standard set of account heads was laid down for capital expenditure. Then, when this had been done, the new Director had the whole of the expenditure analysed from the commencement and sorted out year by year under the newly authorised heads, and no others, up to the end of the year 1915-16. To keep this up in future, yearly, will be a matter of the merest routine, presenting no difficulty; and the result will be that, when dealing with questions of finance and of expenditure, the busy men forming the Council, instead of having to tackle an inchoate mass of figures, all doubtless, individually correct and true but devoid of order, will be able to see at a glance how much has been spent in any year, or from the beginning, on each

of the departments and on each main group of charges in any department. It may be added that the whole of the expenditure is under regular Government audit, and also that the analysis recently made, and the overhaul of documents thereby necessitated, have made it clear that, from the commencement, all income and expenditure has been correctly recorded—though in a less orderly manner than is desirable for the easy reference of a Council composed of a number of gentlemen most of whom already have their time very fully occupied.

Broadly put, and using only round figures—indeed the presentation of details would be out of place in such an article as this, and moreover the details are all there, for reference, right enough—the total of the sums received from all quarters on behalf of the Institute from the beginning have amounted to over Rs. 39-lakhs of which nearly Rs. 34-lakhs had been spent up to the end of March 1916, and Rs. 94,500 invested as part of the endowment, leaving a balance in hand of something over Rs. 4-lakhs of which nearly Rs. 2.5-lakhs will be required to complete the central building and for the depreciation fund. Out of the Rs. 34-lakhs odd that have been spent, just about two-thirds have been for capital expenditure and one-third for working expenses during a period of eight years, or at the average rate less than $1\frac{1}{2}$ lakhs a year, for the ordinary working of the Institute—an annual working cost, however, not fairly represented by such average in the case of an Institute only just starting and not yet “settled down to its stride”, where the expenditure has risen from about Rs. 75,000 to about Rs. 1,86,000 between the first and the last year of the eight. The manner in which the $22\frac{1}{2}$ lakhs allotted for capital expenditure has been disposed of has been stated earlier in this article on page 272. The above are only broad general

figures; but the statement now available for the use of the administrative body of the Institute gives the figures under subheads showing, for example, in each department of working, the cost, separately, of professorial staff, clerical and laboratory staff, apparatus and working, scholarships, and sundries. So much for the receipts and expenditure of the Institute, now at last stated in a form useful to the responsible governing body.

It may not be out of place at this stage for the writer to add a few remarks as to the general impression made on his mind in regard to the future usefulness of the Institute, if not on the precise lines contemplated originally by its founder, then on those of its later development. For undoubtedly it was in the mind of the founder rather that the Institute should apply itself to research pure and simple than that it should lend itself directly to more prosaic economic aims—not that pure research may not so lend itself, if not immediately then in later years or in later ages, if only its results be placed on record in such a way as to be available for reference when needed. The writer is not himself sufficiently equipped as a scientist to pretend, with any show of authority, adequately to gauge the value of the original scientific work so far done at the Institute, *e. g.* Dr. Watson's "determination of the radio-activities of some of the Kolar rocks", his "determination of the absorptive spectra of some additive compounds of trinitrobenzine", Dr. Sudborough's investigation "on the action of Halogens on Aromatic Amino-Sulphonic and carbonylic acids", Dr. Hay's investigations "on the discrepancy known to exist between the calculated and experimentally determined core losses in transformers", or Dr. Matthews' investigation on the "sources of error in hot-wire measuring instruments of the platinum-iridium type". A layman is apt, in his ignorance, to

fail to see the value of much of this sort of work for the furtherance of India's industrial and economic development. But undoubtedly, it is work of a high potential value, and an Institute of the character of that at Hebbal would not be fulfilling its function if its professors, and under their guidance its students, did not carry out purely scientific work of this character. Certain experiments carried on in the Applied Chemistry Department will be more easily understood by the non-scientist as obviously tending to the industrial advancement of India; as for example the making of soaps, the preservation of milk, the extraction of citric acid crystals from Indian limes, the extraction of perfumes, and especially of sandalwood oil, of which the Mysore State has more or less a monopoly in the industrial world, the preparation of a fine table salt from the coarse Madras sea salt, the deodorization of edible oils, the manufacture, from fish oil, of a spraying soap, for use by coffee and other planters, the purification of lac; and so on. There is reason to hope that, under Dr. Gilbert Fowler's skilled guidance the Department of Applied Chemistry will be found, after the war is over and when skilled working foremen can be engaged in England, able to pioneer successive industries up to a stage where, without risk of failure, they can be made over to private enterprise. For undoubtedly, in India, where skilled guidance and scientific education are less easily obtainable than in Europe or America, and where Indian capitalists usually show a profound distrust of the college-trained man, there is but a small chance of new industries being capitalised and run on a commercial scale, with full utilisation of waste products and so on, unless somebody first shows *the way to do it*. This showing of the way to do it will be one of the chief functions of the department of Applied Chemistry in the Indian

Institute of Science, and always that department will be able to fall back for scientific advice or experiment on the other departments next door to it—other departments with which it is desirable that it should work in complete harmony.

It may be useful to say a few words as to the manner in which the Institute has tended to, and still tends to, develop on lines other than those originally contemplated by Mr. Tata, whose first and main idea was that it should be the centre or nucleus of all the research colleges and institutions existing or yet to be founded in India, whether devoted to the cause of medicine or to pure chemical or to technological research of a post-graduate character. Instead of keeping this original aim in view—an aim which might have resulted in alienating to some extent the sympathies of Local Governments and of Native States, with science colleges of their own to foster—the Council has permitted the Institute to tend to develop into a kind of superior technical college, with leanings towards industrialism, frequented by students who, for one reason or another, have a desire for earning a livelihood by some more practical means than that afforded by the public service. The writer believes sincerely that the best interests of India—namely, that her people shall earn more in return for their labour, shall pay less to other nations for doing what they can quite well do for themselves if only suitably guided, and in the result, shall ask for and secure a higher standard of comfort in their daily lives—will best be served by the Institute becoming the recognised centre of *scientific research having industrialism for its object*. That it should in fact be looked on as “THE INDIAN INSTITUTE OF INDUSTRIAL SCIENCE”. All, or nearly all, of the Local Governments have their own colleges with more or

less completely equipped departments of pure scientific study, and they are not likely to divert to the Hebbal Institute endowments that might usefully be employed locally. If, however, the Hebbal Institute develops less on the lines of pure scientific teaching than on those of industrial scientific teaching, investigation and experiment, based on and aided always by pure science, it will, in the writer's opinion, be more likely to be viewed with sympathy by the holders of Provincial purse strings as well as by such of the Native States as are in hearty accord with its aims.

And so the question arises of the value, in such a line of development as has been foreshadowed, of the existing departments of the Hebbal Institute. The Applied Chemistry department must, of course, if the policy sketched above be adopted, be at the head and front of the Institute's activities. The existing departments of General and Organic Chemistry are, needless to say, essential supporters, allies and colleagues of the Applied Chemistry department. But whether the same can be said of the Electrical department is a matter for argument, on which some discussion has already taken place. It has been said that for the purposes of the teaching of and experimenting on and demonstrating industrial processes, the presence of an electrical department at Hebbal is not essential and that the subject might be, and ought to be, quite well enough taught at the provincial colleges, *e.g.* for Madras, at the new engineering college at Guindy. The writer, however, has no desire to plunge again into this controversy, and is content to see how things develop. He is himself inclined to the belief that the presence of an electric laboratory at the gates of the chief, or Applied Chemistry, laboratory is as essential to the success of the latter's teaching and experiments as are the laboratories

of General and Organic Chemistry. Indeed it seems unlikely that for the higher electrical problems the provincial colleges will ever be as well equipped as Hebbal is already, and always will be.

Those of the youths of India who have yearnings towards an industrial career and are ambitious for the emergence of their country from the primitive role of an exporter of raw products to that of a manufacturer of such products into useful forms, now have, in the Indian Institute of Science as at present organised, the opportunity—an opportunity which they have long professed to desire—of learning not only the scientific principles underlying certain kinds of manufacturing processes, but also of seeing and joining in the actual conversion, on an experimental scale, of raw products into saleable manufactured articles useful to man. As His Excellency Lord Chelmsford is reported to have said “I look forward to the day when India will not only produce its raw material, but will be in a position to convert that raw material into finished articles for its own and the world’s consumption.” Indeed it is in the conversion of valueless, or comparatively low priced, raw material into things for which the public will gladly pay money that wealth lies. But so long as India is satisfied to go on in her present course, sending away her crude products to be made up elsewhere into things for which not only other nations but she herself will insist on paying, she must continue as now to be poverty-stricken and to be considered by more progressive communities as lying outside the ranks of the civilized nations. For a nation the bulk of whose members is content with the low average standard of the Indian, in comfort of living, cannot expect to be held to be civilized by the more advanced nations. To the educated young Indian, ambitious of doing his little bit for the advancement

of his country towards a higher standard of wealth and of comfort, the Institute offers the opportunity of giving effect to his ambition. Whether it will have any effect in curing the Indian capitalist's profound lack of confidence in his educated neighbour is another question which—except in so far as life in such a school aids in the formation of character, and of self-reliance, and so to the growth of confidence on the part of outsiders—must be left for solution as experience is gained and as time goes on. The writer has observed the growth of India for now close on forty-six years, and has seen progress enough to satisfy him that, slow though the civilizing process may be, yet there is growth, and that another half century will see India as far ahead of her present economic state as she now is ahead of her state of the "eighteen sixties."

It is sincerely to be hoped that, setting aside all suspicions and jealousies, the Indian public and the educational authorities will now recognise that, actuated by an earnest desire to adopt the best possible course in the interest of Indian industrial progress, the Council has taken such steps as have appeared to it to be best calculated for the attainment of that end; and that, in the Indian Institute of Science at Hebbal, Bangalore, there is available, for advanced industrial and science students, an excellent set of well equipped laboratories of a high order, with skilled professional teaching, under the guidance of a Council fully imbued with an earnest desire that the entire organisation and teaching of the Institute should conduce to the end in view—namely, that if he feels he has it in him, and has, or hopes to have, a financial backing—a University science graduate may take up, at the Institute, advanced work in General, Organic or Applied Chemistry, or Electricity or in more than

one of them—work directed always towards its utilisation later by the student, less for the purpose of gaining an educational billet and salary as a teacher, than for the inauguration of commercially practicable manufacturing enterprise. It rests now with the Indian educated public to take full advantage of the opportunity. There are a certain number of entrance and research scholarships. To students who have satisfactorily completed their courses of study, fellowships, associateships and certificates are granted. The hostel and messing arrangements are thoroughly good, and devised to meet the wishes of all castes and classes. The climate is excellent, ensuring the best possible conditions for laboratory working. The relationship between the professors and the students now in the Institute is all that can be desired, and the general tone of the place indicates a high order of earnestness and of interest in the work in hand.

THE INDIAN CUSTOMS

D. A. BARKER. I.C.S.

In this article it is proposed to consider very shortly the development of the Indian "customs" in their economic aspects. Owing to the distance of India from the main centres of the world's trade and to the comparatively small industrial development of the country the Indian tariff has never been, to the same extent as in other countries, an index of prosperity; and it has not therefore attracted much attention from the economic student. The subject is, perhaps, of more interest politically than economically, but in the present era of instability it would be futile to deal with that side of the question. The attention of the reader will therefore be drawn mainly to the history and development of the fiscal policy of the Indian Government and points of controversy will be relegated to a subordinate position.

It may be said, roughly speaking, that before the Mutiny of 1857 everything imported into India was taxed at 5 *per cent* and everything exported at 3 *per cent*. In 1859, in order to meet the expenses connected with the repression of disorder, the rate of duty on imports was raised to 10 *per cent* and was maintained at that level until 1864 when it was reduced to 7½ *per cent*. By 1867 many articles had been exempted from the export duty and a large number of minor classes of imports were put on the free list. In 1875

the general import duty was further reduced to 5 *per cent* and the export duty was abolished in the case of all articles save rice, indigo and lac.

Meanwhile a controversy had arisen regarding the duties imposed on cotton goods imported into India—duties which were certainly protective in their nature if not by intent. English politicians demanded that India should have the benefits of free trade and Lancashire manufacturers complained of the unfair competition of the Indian mills. In India general opinion both official and non-official regarded the movement for the repeal of the duties with disfavour, pointing out that India could ill afford to lose a profitable source of revenue and that in any case the duty of 5 *per cent* was too low to have any appreciable protective effect. In marked opposition, however, to this view, the two able brothers, Sir Richard and Sir John Strachey, both occupying important posts in the Government, pressed unceasingly for the removal of all restraints upon trade in India. The policy of *laissez aller* received full support from England. In a despatch to the Government of India dated May 31st 1876 the Marquis of Salisbury, then Secretary of State for India, expressed his opinion that the cotton duties were sufficiently large to be protective; that behind them the Indian textile industry would be stimulated to an unsound and unhealthy growth, and a growth moreover by which the Indian Government would be deprived of the revenue upon which it had come to rely, and finally that the interests of India required the “timely removal of a tax which is at once wrong in principle, injurious in its practical effects and self-destructive in its operation.”¹

The Viceroy, Lord Lytton, and his Finance

¹ It has been the fashion for protectionist writers, such as Sir Roper Lethbridge and others, who have dealt with the Indian aspect of the fiscal question, to assume that the creed of the free traders was here deliberately made into a weapon for

Member, Sir John Strachey, were equally anxious for the removal of the cotton duties and for a general revision of the tariff, but were unable to undertake immediate prosecution of these reforms owing to financial difficulties caused by famine and a fall in the exchange. In 1878, however, a considerable measure of improvement was brought about by the abolition of the duty on twenty-nine out of the sixty-two major heads of the tariff, including a small class of coarse cotton goods, and in the same year the inland duties on the export of sugar to Rajputana were abolished. When announcing these reforms Sir John Strachey took the opportunity of laying down the principles which should guide the Government of India in framing its fiscal policy. "These principles are as regards imports:—

1. That no duty should exist which affords protection to native industry; and, as a corollary, that no duty should be applied to any article which can be produced at home, without an equivalent duty of excise on the home production; also that no duty should be levied except for purely fiscal purposes.

2. That as far as possible, the raw materials of industry and articles contributing to production should be exempt from customs taxation.

3. That duties should be applied only to articles which can yield a revenue of sufficient importance to justify the interference with trade involved by the machinery of collection.

As regards exports:—That duties should be levied on those commodities only in which the exporting community has practically a monopoly of production."¹

protecting Lancashire interests. On the other side, however, we have the formal statement of Sir Henry Fowler (*Spectator*, January 11, 1908) that Parliament required that the Indian tariff should be accompanied by an excise on cottons, and that the excise was not imposed as an after thought in deference to Lancashire agitation. It is almost impossible for us in the present atmosphere of economic doubt to realize how strongly burnt the flame of Cobdenism in England during the "seventies".

¹ Financial Statement, 1878-79.

He further argued that India, owing to its position as a debtor country and the undeveloped state of its resources, should be released so far as possible from all restraints upon trade; that owing to the varied productive capacities of India almost every import duty would be potentially protective; and finally that, on account of the frugal habits of the people, the imports of India consist almost entirely of the materials of industry and the necessities of life, articles which should under no circumstances be subjected to the burden of an import duty.

In 1879 Lord Lytton proceeded to extend the reforms of the previous year and decided to remit the duty on all grey cotton goods consisting of yarns not finer than 30s. This step aroused considerable opposition, largely on the ground that it was a mere sacrifice of revenue without any appreciable benefit to the freedom of trade. But the effects of the remission do not support this view. Comparing the imports of grey piece goods in the years 1878-79 and 1880-81 it is found that the duty-free class of cotton increased forty-fold, whilst the dutiable class diminished by more than 50 *per cent*.

In 1880 the export duties on indigo and lac were swept away, leaving rice as the only article subject to export duty. This duty has been defended on the ground that India and Burma have a practical monopoly of the supply of rice to Europe and that the duty in so far as it is paid by the producer, acts chiefly as a tax on agricultural profits in Burma where the taxation of land is relatively light. At the same time it should be noted that the rice trade showed little expansion for many years after 1880, and that rice is being replaced by other grains in the manufacture of starch and alcohol.¹ Duties on exports require

¹ Sir John Strachey. *India* p. 188.

to be very carefully watched: the Indian trade in saltpetre was destroyed by a tax of this kind, and indigo was only released just in time to enable it to begin the struggle with the synthetic dye on more or less equal terms.¹

The work of fiscal reform which had been begun by Lord Lytton and Sir John Strachey was completed by Lord Ripon and Sir Evelyn Baring, and in March 1882 import duties were abolished in the case of all articles but salt and spirituous liquors. Free trade in India had reached its zenith, and a series of financial difficulties now set in which rendered necessary the re-imposition of the greater number of the duties remitted in the period 1875-1882.

The commencement of the new era was marked by the imposition of an import duty upon petroleum in 1888. The next step was taken in 1894 when the Government of India, struggling under the difficulties caused by the great fall in exchange, imposed a 5 *per cent* import duty on all imports; gold, food grains, machinery, railway material, coal, cotton yarn and manufactured cotton goods being excepted. Later in the same year, however, cotton yarn of a certain fineness, and manufactures containing such yarn, were put under the general tariff; an excise duty of 5 *per cent* being imposed upon similar goods manufactured in India. In 1896 cotton yarn and sewing thread were exempted from taxation and the import and excise duties on other cotton goods were reduced to 3½ *per cent*. Then, subject to a few important exceptions, the Indian customs duties remained unchanged for a period of twenty years. This period was on the whole one of considerable prosperity and witnessed several important reductions in taxation—the salt tax being reduced from Rs. 2-8 to Rs. 1 *per maund* and the

¹ Cf. speech by Sir R. Strachey in the Governor-General's Council, March 31st, 1871.

limit of income-tax assessment being raised from Rs. 500 to Rs. 1,000—and it is therefore noteworthy that no attempt was made to relieve the foreign trade of India from the general tariff of 1894. Evidently the obtaining of revenue from a low general tariff had become a permanent resource of the Government of India. What an important resource it has become is shown by the fact that the greater part of the additional taxation provided in the Indian budget for 1916-17 is drawn from customs. Of about £3.6 million additional taxation, £2.15 m. comes from customs and consequential changes in excise duties on liquor, £0.6 m. is derived from the enhanced salt duty and £0.9 m. from an increase in the income tax.

The most important of the changes relative to customs may be briefly mentioned.

(1) The general rate was altered from 5 *per cent* to 7½ *per cent*, thus going back to the level of 1864-75.

(2) The free list has been curtailed. In future the statutory free list will be confined to:—

(a) Gold coin and bullion; and current Indian silver nickel, bronze and copper coin.

(b) Essential materials—raw hides and skins, raw cotton, raw wool, and paper-making materials.

(c) Certain agricultural requisites, machinery and manures.

(d) Certain commodities required for the production of excisable articles—cotton yarns and cotton thread, cotton spinning and weaving machinery, hops.

(e) Miscellaneous—Books, natural-science specimens, quinine, etc.

(3) Some articles formerly admitted free are taxed at 2½ *per cent* only—*e. g.* railway materials, machinery, ships, food grains and coal.

- (4) A general rise in the duties on liquors and tobacco, arms and ammunition.
- (5) Export duties on tea and jute.

With regard to this last proposal the Finance Member said:—"Both these industries have been specially prosperous during the war, and in the case of jute I think there is already a considerable consensus of opinion that if the financial situation created by the war should necessitate heavy additional taxation, this is one of the first articles which might legitimately be taxed. The case of tea is hardly less strong, especially in view of the fact that in spite of its largely industrial character the tea business has for thirty years been exempted from income tax. I may add that in the case of tea we have a precedent for special taxation in the recent action of the Ceylon Government, which, after the war broke out, imposed an export duty of Rs. 1½ per 100 lbs. We propose to follow this example and to adopt the same rate, a measure which is estimated to produce some £300,000 of revenue in the coming year. Jute is an article which can well bear a special rate of export duty not only because of the present prosperity of the trade but in view of the monopoly which India has in this product. The only existing special taxation on jute is a small cess levied in Calcutta and Chittagong the proceeds of which go to the Improvement Trust in the case of Calcutta and the local Port Trust in the case of Chittagong."¹

Attention has already been drawn to the fact that in the twenty years 1896-1916 very few material changes were made in the customs tariff of India. But during this period of quiescence a considerable

¹ Reference may here be made to the "tea cess" which has been levied since April 1903. This is an export duty at the rate of $\frac{1}{48}$ anna per lb. on all tea produced in India and exported from any Customs port to any place out of British India. The collections are paid to a Committee for promoting the sale and consumption of Indian tea.

change of spirit has become apparent in the customs administration, and the rigid free-trade principles of the Stracheys have gradually faded into a policy of "fair trade." Several instances of this change may be mentioned. The first and most important of these was the imposition of additional and countervailing duties on sugar. The Continental system of sugar bounties had gradually resolved itself into a bounty on export, and when in 1896 the Government of the United States of America took measures to exclude the bounty-fed product an increasing quantity of cheap sugar was dumped upon the markets of England and India. In 1899, in order to protect the home grown product against this "unfair competition" the Government of India imposed upon all sugar imported from bounty-giving countries an additional duty equivalent to the bounty; and this protection was further extended in 1902.

Again, in 1900, the French Government, in view of a pending tariff war with Brazil, proposed to subject Indian imports to the "general" tariff instead of according to them, as before, the most-favoured-nation treatment. This change would have been disastrous to the Indian coffee trade, but negotiations were entered upon, and eventually the threatened danger was averted in return for a small tariff concession on the part of the Indian Government.

Further, when the Sugar Convention Bill was passed by the British Parliament and Russia replied by placing a prohibitory duty on the import of tea through the Black Sea ports, the Indian Government informed Lord George Hamilton that it was prepared to place a differential duty upon Russian petroleum. And this attitude was further emphasized in the concluding paragraph of the despatch on the question of Imperial Preference. "All we seek" said the Indian

Government in that despatch "is that we shall not be pledged in advance to accord equal treatment to the imports of all countries alike, irrespective of whether they penalize our exports or not.¹ In respect of this statement of policy it should be remembered, however, that the use of non-protective duties as instruments of negotiation need not imply any departure from "orthodox" principles. As Mr. Pigou reminds us in his *Protective and Preferential Import Duties* "Sir Lucas Malet was of opinion that much might be effected without any departure from our free-trade policy, by friendly representations backed at need by small manipulations of the purely revenue duties on wine and tobacco." So far then the customs policy of the Indian Government, even during the last period of "fair-trade", has not shown any definite break with the past. But a far reaching development is fore-shadowed in the Finance Member's speech, when he states that after the war, "the fiscal relationship of all parts of the Empire as between one another and the rest of the world must be reconsidered in connection with the share, military and financial, that has been taken by India in the present struggle."

What form these changes may take is too wide a subject to speculate upon now. The old currents of political development have run dry or changed their channels altogether during the last two years, and the public mind has turned rather to construction than to criticism; to facing facts rather than to analyzing them. There is however no reason why the economist should cease to analyze them. More fortunate than the

¹ Views of the Government of India on Preferential Tariff [Cd. 1931], p. 11. In this connection it may be of interest to refer to a letter from Sir C. A. Elliott in the *Spectator* of December 30th 1907. In the course of personal reminiscences of the late Sir John Strachey, Sir Charles Elliott there stated that his friend had lately come to favour the adoption by India of a fiscal policy similar to that put forward by Mr. Balfour at Birmingham—i. e., a revenue tariff to be used for bargaining purposes.

politician, he works on theories and facts which can survive even an Armageddon. It will be his task, and no light one, to help clear away the clouds born of passion and jealousy and to ensure that such changes as are made shall be founded upon reason and not upon revenge. In the case of India, where the popular demand is for protection, it will be particularly his duty to point out the importance of the principles laid down in 1878 by Sir John Strachey. Those principles, it may be admitted, must always be subject to the exigencies of time and place. They may require to be set aside for the attainment of fair trade, but they should always be kept in mind.

No statesman can afford to forget that competition is the primary factor in progress, and that commerce is founded on mutual benefit and not upon mutual retaliation.

AN INDIAN TRANS-ASIATIC RAILROAD

GEORGE S. A. MATHERS

ASSIST. SUPERINTENDENT, EAST INDIAN RY. CO.

It was in 1838, when the throes of the railway mania had subsided, that Lord Derby, in turning the sod of the St. Helens and Wigan Junction Railway, said: "We look to the probability, almost the certainty, that the next generation, if not ours, will see a complete line from Paris to Pekin".

The project uppermost in Lord Derby's mind at the moment was undoubtedly the overland route by way of the Mesopotamian valley to the East, the desirability of the construction of which railroad was the subject of investigation by a Parliamentary Committee in 1872; and the idea that the prediction would receive fulfilment in an alternative alignment at the hands of Russia, never probably entered the calculations of Lord Derby at the time. But Russia, inspired by that great prince, Peter the Great, has, as we are well aware, spared no efforts for the past two centuries to find a suitable commercial outlet to the sea, and has constructed the great trans-continental railroad from Tchelyabinsk on the eastern slopes of the Urals 4,500 miles long, connecting Moscow and Petrograd

with Vladivostock on the Pacific, leaving it, *mirabile dictu*, to sleepy China to wake up, and link in Pekin with Paris.

It may perhaps be most conveniently remarked here that this Trans-Siberian line, constructed in its main features in 1902, is of restricted commercial utility, due partly to the fact that Russia has no mercantile marine service worth reckoning, and consequently her great Trans-Siberian trunk line is starved out from carrying an overseas traffic; and further to the fact that for traffic originating in the Orient the location of the road is unsuitable, as the congestion of China's population and commerce is to be found along the Yangtse-Kiang Valley.

Nevertheless the line is there to prove the early faith of earnest railroaders in the utility and progressiveness of their pet child regardless of the fact that *Punch* with mock gravity predicted great developments for the early railway "maniacs" for that unlimited company, gratuitously projected for the acceptance by all and sundry speculators: "The Great North Pole Railway, forming a Junction with the Equinoctial Line, with a branch to the Horizon"; and not being convinced matters could be allowed to rest there followed this notable project up with another equally hopeful, "The Great Antipodean and Hemispherical Junction between Glasgow and Sydney by the most direct route throughout the centre of the earth"!

It is said that Ferdinand de Lesseps, when a school boy, tackled the transport question, and this presumably long before Ferdinand knew anything about the "ancient commerce of the Levant" or its origin—long before he had heard about the merchant aristocracy of that City of Gold—Palmyra. But genius and insanity have only a bridge of ether between them, and de Lesseps was right, and has left us the nucleus

of the key-route in the matter of commerce with the Orient. Taking up a map, Ferdinand de Lesseps drew his penknife from point to point and said—"This is where there ought to be a canal;" and although he turned his eyes later in life to the Panama, yet there was not the same degree of faith in his afterthought.

The accelerated exchange of commerce consequent on the opening of the Suez route has, as we all know, resulted in a phenomenal expansion of our national business; and the United States of America, under the enthusiastic leadership of Mr. Roosevelt, has been actuated by a similar motive in constructing the Panama Canal, taking their cue from the advantages gained by the Old World, *i.e.*, the abbreviation of voyages—which, in the case of Panama, is between the Pacific Ports and New York, and incidentally between the Orient and Europe.

America has, therefore, made her last "cut" for the commerce of the Orient; and we are all aware of the peculiar reading by President Taft of Article III of the Hay-Pauncefote Treaty, which led to the great discussion in the "Times", involving as his interpretation did, the preferential treatment of American bottoms. Moreover, the reports of the United States Interstate Commerce Commission for 1910, which are the latest reports I have at present before me (but they are good enough for my present purpose) show that the mileage of United States railways open for traffic in that year amounted to 240,500 miles roughly. This figure is significant in itself; but the real significance is attached to the great trunk lines connecting in multiple the Atlantic and Pacific sea-boards, which from their inception and thereafter have always had the question of securing the traffic between East and West constantly at heart. America, however, is not yet satisfied that she has eaten far enough into the

vitals of British over-seas transportation, in the matter of endeavouring to establish herself the foremost carrier of oriental commerce; and with the advantage that will accrue as a result of the existing War and her ownership of the Panama route, coupled with the vast trans-continental railroad systems that obtain, she is forging ahead systematically with the conviction that she will yet outwit all nations in this matter and swell the "almighty" American register.

It will be serviceable to review here in brief outline America's persistent efforts in the Pacific, and the program which she has so consistently followed in her ambitious endeavour to establish herself as the greatest carrier in the Oriental trade, and to divert from the Old World routes the traffic to Europe. She has meshed together the Atlantic and Pacific sea-boards with her railroads, iron belts, the line of least distance being 3,270 miles in length from shore to shore; and she has cut through the Isthmus of Panama to further her designs and ultimately to attain and consolidate her objective. But it is a case of the "Twa Brigs"; and history will repeat itself, and what was once the highway of commerce between East and West will come to its own again—the jangling bells of the caravan being replaced by the hootling and tootling of the iron monster.

It will be remembered that America acquired the Hawaiian islands as a half-way-house between the Oriental and Occidental ports of the Pacific as a preliminary to her more ambitious schemes, and later installed herself in the Philippines, establishing a base at Manilla, directly opposite Hongkong, the key to the commercial doors of China and the chief entrepot of the Orient. In Honolulu, six days' voyage from San Francisco and ten days from Yokohama, the United States have a distributing centre second to none, with a beautiful land-locked harbour capable of accommodat-

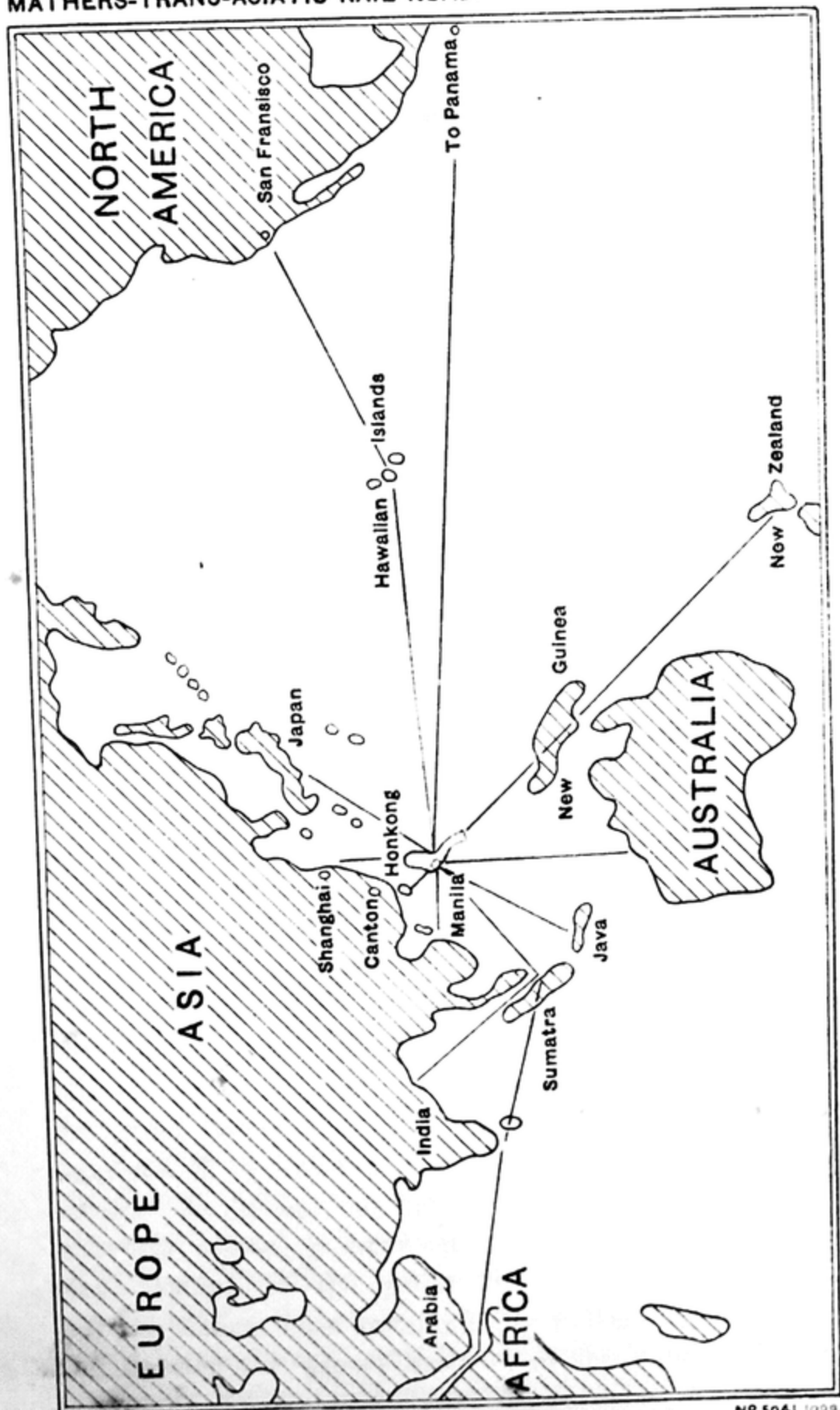
ing steamers of the largest tonnage; and it may be mentioned in passing that at Pearl Harbour, seven miles from Honolulu, gigantic military works are in the stage of completion as a protection to the Pacific coast and the Panama Canal. This naval base is capable of accommodating the whole of the United States' Pacific Fleet.

Our chief interest is, however, centred in Hongkong and Manilla; for, so far as sea-borne commerce to and from the Orient is concerned, these places are determining factors. Hongkong, a free Port, has an advantage over Manilla by being closer to the mainland being situated about 70 miles, or seven hours journey from Canton, the key to the fast developing Hankow District. The British stand first "by a long chalk" in all Chinese trade, especially through Hongkong, which is the commercial battlefield of the principal nations for the expanding trade of the most densely populated territory of the World. In this connection, it is estimated that one-fourth of the population of China have more or less dependence upon the Port of Hongkong; yet Manilla is a legitimate competitor—much younger it is true, but not to be treated lightly or trifled with on that account, being from her location the *Hub of Oriental Commerce*, as a glance at the diagram overleaf will show. Moreover, it is the firm conviction of all Americans that as an objective point its great commercial importance must inevitably result in bringing it rapidly to the front as a world mart; and a big stride in this connection has already been accomplished since Admiral Dewey sounded the "cease fire" at Manilla in 1898. The story of Carthage and Rome is worth remembering. The possession of the Philippines gave to the Americans an advantage which they have not been slow to make full use of, in the development of their trade with the Orient; and it is certainly this

possession which has given their Oriental trade an impetus which threatens to shake the foundations of the older institutions.

Exactly how long this new house which the Americans have occupied will stand as the Hub of Oriental Commerce is a speculation; but we know that railway construction in China has made great strides within the last ten years, and no Western innovation has taken so firm a grip of the nation as the construction of railways. The trunk line projected a few years back was from Kowloon through Canton and Hankow—the heart of China—to Peking, and onwards to make a Junction with the Trans-Siberian railroad at Harbin. The Chinese Eastern Railway is working from Hankow northward, and the section from Kowloon up the Canton River to Canton is also complete, the only part awaiting completion being the Hankow-Canton Section.

The capital invested in Chinese Railways is, according to a careful calculation about £32,000,000; and, to digress a trifle, it will be of some interest to note that the United States have supplied the greater portion of the necessary material and plant. In fact none of the other principal nations have been able to keep pace with America's ability to supply the Chinese market with railway material; and this, it may be mentioned, is only one of the leading items of export traffic in which America excels. There is no doubt her "push" is winning for her a great and fast growing connection with the Orient, and as she is naturally a comparatively small importer therefrom, and her principal motive is the development of her export trade with that desirable mart, she must maintain the transportation balance, and this she does by undertaking the carriage of material from China destined for other nations, obtaining return cargoes for her bottoms on the principle that any rate is a paying rate.



There is it may be remembered perhaps not another country on the face of the earth which has had the development of its export trade fostered by its carriers to the same extent as the United States. To illustrate this we may take as a pertinent example the wheat business in which the nation indulges. In 1872 Russia was Great Britain's principal source of supply and the export figures of the United States and Russia in 1872 and 1900 illustrate very precisely the alteration that took place in the relative position of these two suppliers during the period of about 30 years:—

		1872	1900
		<i>Quarters</i>	<i>Quarters</i>
Russia	... ..	4,168,000	1,031,000
United States	... ..	2,030,000	13,561,000

It is of course admitted that there were other economic causes in addition to the circumstance of cheap transport which helped to establish the above position; but at the same time it is a significant fact that the wheat growers of the Western States were given most extraordinary facilities and rates by the home land carriers which directly assisted the growers domestically in their competition with the Atlantic Coast Line and Mississippi Valley growers as well as abroad with foreign producers. In fact the facilities and extraordinary export rates afforded by American transportation lines throughout the United States during this period placed the American suppliers in a satisfactory position to compete with stability in foreign markets. In this connection the following extract is instructive and appropriate and a clear example of the policy the United States land and sea-carriers have systematically followed to husband and develop the export business of the nation. There is also no doubt the land and sea carriers are prepared to continue the policy of reducing freight charges to the

absolute economic minimum if necessary to maintain and further the nation's interest.

"While the agriculturists of the United States have sowed and reaped, and its millers have advanced with the progress of wheat growing, both would have been unable to attain the strong position they now occupy in the world's markets had it not been for the co-operation of the inland and ocean carriers. It must be admitted that the great expansion of the railways of the country and the steady reduction in freight rates, accomplished by an increase of facilities for moving the traffic economically, have been the great factors in the upbuilding of the export trade in wheat and flour. The people of no other wheat-growing nation have been favoured by as low rates of freight as the Americans. The railroad of the West extended its rails into promising fields as soon as, and more often before, their freight-producing capacity was known. In 1871, when the true quality of spring-wheat was discovered, the railroads in the United States operated 44,600 miles; in 1897, 181,000 miles were in operation. The reduction in the rate of freight per ton mile has more than kept pace with the increase in mileage; in 1859-60 the average rate was 1½d. per ton per mile; in 1896-97 it was 0·4 of a penny. On one railway—the Chesapeake and Ohio—the average freight per ton per mile in 1862 was 3½d.; in 1879 it was 0·2d. From 1858 to 1862 the average all-rail rate on a bushel of wheat from Chicago to New York¹ was 38·4 cents; from 1863 to 1867 31·4 cents; during the next five years it fell to 27·9 cents; again declining to 21·2 cents in 1873-77; in 1882 the average for the preceding five years was 16·7 cents; this was reduced during the ensuing term to 14·6 cents; from 1888 to 1892 it was

¹ Chicago to New York direct, by Pennsylvania R.R., 912 miles (Baedeker's *United States*).

14.5 cents, and for the five years ending with 1897 it was 12.8 cents. From New York to Liverpool the cost of carrying has been reduced at times to an absurdly low figure. In December, 1900, it was only five cents per bushel, and since then there have been times when it was as low as two cents, and, not infrequently, it has been carried across the ocean as ballast."¹

We have only to couple this singular statement of facts regarding the history of American transport charges with the reputed opinion of Mr. James J. Hill, the great north western railway owner and operator whose judgment and foresight was as good as the enormous sums of money he successfully invested therein himself. In the Orient he believed the United States of America had the touch-stone of success and prosperity and his entire program of railway and shipbuilding schemes had this one fact in view. The great trans-continental railways, as well as the allied steamship lines built for the Oriental trade and controlled by Mr. Hill and his associates, have not failed in their mission, nor have they yet played their last card. The Asiatic market is the goal in view, and if unprecedented rates of freight will secure the foreign business, the policy of American rail-rovers is clear, for Mr. Hill has himself stated that—"given the demand in one place and the supply in another, the carrier can and must make a rate of freight which will move the commodity, and, providing the traffic is great enough, this rate can be reduced below any figures today existing." There is no doubt about the demand and supply or the volume of traffic.

From facts already established let us then see clearly what the World's position is in respect to both land and sea transport. We know the principal nations are struggling to get rid of their surplus, and they all

¹ *A Grain of Wheat*, by William Edgar.

appreciate the fact that the Orient offers the best market. All have independent means of sea transport, and independent bases of distribution; and America has her sign out to detract as much as lays within her power from the proprietor's utility of Hongkong. She has, however, reckoned without her Hongkong host; for we know the Indies are "the great depot of the world". We have this statement on good authority; and, moreover, *we* have the care of the Indies.

The railway development in China, coupled with railroad schemes in Asia Minor, will undoubtedly usher in a new transport era. We shall be compelled at no distant date, I believe, to fulfil to the letter the following extract from the IXth Article of the "will" of Peter the Great, who was sole ruler of Russia in 1688 at the age of 16; and in doing so we must offer the necessary transport facilities, or the Russians themselves will perhaps do so:—

"Penetrate to the Persian Gulf; re-establish, if possible, by way of Syria, the ancient commerce of the Levant; advance to the Indies, which are the great depot of the World."

We have only to watch the daily development of events and the balance of the story does not need to be written down. "Galileo was right—the World does move"; and there is no question so acute today as that of transport. We understand from the daily press that, at the meeting between Mr. Asquith and M. Sazonoff in London recently, the vexed Eastern question so far as Great Britain and Russia is concerned has been satisfactorily settled and that a solidarity of mutual purpose has been established; and it is not unreasonable or frivolous to infer the inception of a policy of mutual development of the Near East and the opening up of

that long neglected country, the cradle of humanity, setting aside the one-time "Russian menace" and relegating it to the nursery of nations where it first saw light. When adult age is attained there is a point of satiation. I may be over sanguine, but it is my conviction that within the next five years after the cessation of the present hostilities the railroad from Karachi to Scutari with a bridge over the Bosphorus will be established throughout.

In regard to the China side of the project, we have seen the awakening of that nation and their demand for modern land transport facilities. The German and the wily Turk have pretty well provided in their Bagdad Railway schemes the link between Basra and Scutari; and from Constantinople onwards to London we are well equipped. Aside from all other issues America—the New Prussia—does not control part of the prospective railroad; and provided the transport charges by the overland route are not prohibitive or unbearably higher than the existing sea freights, the commercial prospects of the project are assured, as the accelerated exchange of commerce means several per cent more per annum to the trader than by the slower sea service, although initially there may be a numerical difference in freight in favour of sea-carriage.

Adam Smith once put it to his contemporaries, in discussing the limitations of land transport to answer the question—"What goods could bear the expense of land-carriage between London and Calcutta?"—and, with all due respect to the father of our science, we may perhaps be able to offer a solution. We will first, however, tabulate the trans-oceanic routes open to traffic between the Orient and Europe, and compare the mileage involved by way of the prospective overland route *via* the Indies and Constantinople, and also consider the lead to Petrograd by an alternative project *via* Persia

in conjunction with the Russian Railways by way of Azof and Moscow.

SEA ROUTES

VIA SUEZ—

			<i>Miles</i>
Shanghai to Honkong	...	...	810
Hongkong to Colombo	...	...	8,096
Colombo to Port Said	...	...	8,488
Port Said to London	...	...	8,215
			<hr/> 10,609

VIA PANAMA—

Shanghai to Honolulu	...	...	4,070
Honolulu to Panama	...	...	4,160
Panama to London	...	...	4,800
			<hr/> 18,080

RAIL *cum* SEA ROUTE

VIA UNITED STATES—

Shanghai to Yokohama <i>via</i> Inland Sea	...	...	1,190
Yokohama to San Francisco	...	...	4,700 ¹
San Francisco to New York Overland by rail	...	...	8,270
New York to London	...	...	8,825
			<hr/> 12,485

¹ By way of the Great Circle—4,525 miles.

VIA INDIA AND CONSTANTINOPLE TO LONDON— *Miles*

Shanghai to Nanking	...	193	
Nanking to Hankow	...	276	
Hankow to Chengtu	...	800	
Chengtu to Yang-ning	...	273	
Yang-ning to China Frontier	...	140	1,682
China Frontier to Saidya	...	190	
Saidya to Karachi (<i>via</i> Sara, Katni and Hyderabad (Sindh))	...	2,417	2,607
Karachi to Basra	...	1,300	
Basra to Constantinople	...	1,610	
Constantinople to London (<i>via</i> , Amstetten, Linz, Munich, Nancy, Paris and Dieppe)		1,909	4,819
			<u>9,108</u>

VIA PERSIA, AZOF AND MOSCOW TO PETROGRAD—

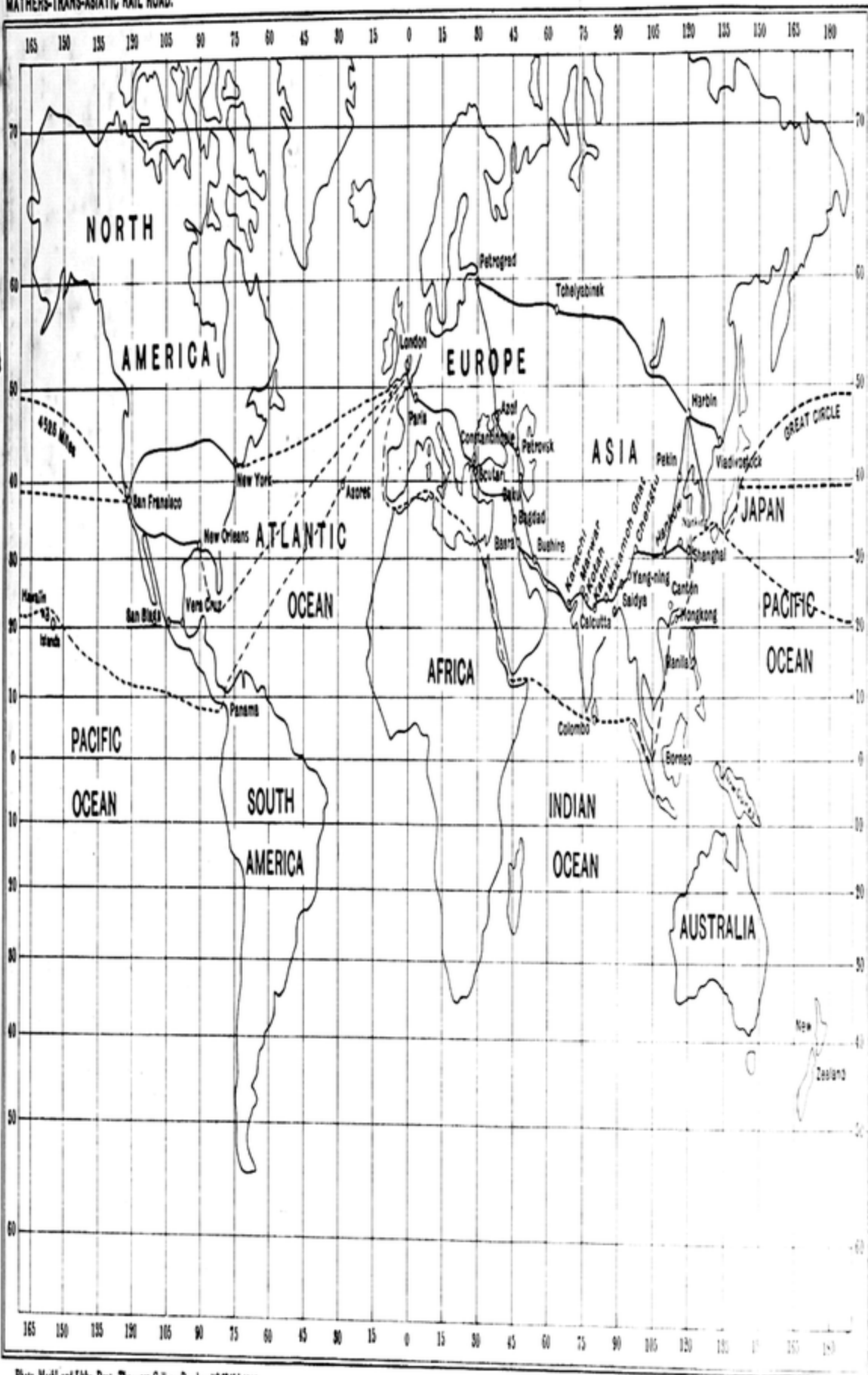
Shanghai to Karachi	...	...	4,289
Karachi to Bushire	...	...	1,100
Bushire to Baku	...	...	900
Baku to Petrovsk	...	...	220
Petrovsk to Azof	...	...	580
Azof to Moscow	...	...	730
Moscow to Petrograd	...	...	410
			<u>8,229</u>

A sketch map, outlining the routes indicated above, is attached overleaf, and it may be mentioned in respect to the overland routes proposed that the most serious disadvantage which at present obtains is the variance of gauge of railways already in existence, which will form part of the trans-continental route. This position, however, in respect to the Indian, and probably the Chinese sections, will undoubtedly be remedied in order to secure the utility of the overland system, or otherwise the prospects of railroad transport will be somewhat depreciated in proportion to the number of times

bulk is broken *en route*. It is generally agreed owing to the undesirability of break of gauge that the policy of future construction in India should aim at uniformity of gauge where necessary to secure the fluidity of traffic; and consequently so far as the lines connecting Baku and Baghdad with Karachi are concerned there should not be much doubt as to the utility of adopting the Indian standard gauge. In respect to roads less than the standard already in existence in India, which will form part of the through route, the desirability of converting them to the Indian broad gauge of 5' 6" is evident. India, it is needless to add, is the "great Depot", and in the matter of trans-Asiatic railroad transport notably so, for it is believed she will be able to provide the necessary railway gear and requirements for the Asiatic Section of the Trans-Continental Railway system; and, provided uniformity of gauge is attained, her task in this connection will be considerably facilitated. It may be remarked that the conversion of existing narrow gauges, and their complementary structures in India will incur an appreciable capital expenditure; but it would be well in this respect to trust in our borrowing capacity when the indemnity comes Home. Moreover, as indicated, the question of the provision of broad gauge rolling stock to meet the traffic requirements of the converted gauge does not arise; and with this advantage the time occupied in conversion would be negligible, as the time essentially necessary to complete such an enterprise is not considerable.

In this connection Mr. Priestley's note in the Imperial Gazetteer is interesting, as regards the American gauge-quandary:—"But as the country developed, the inconvenience and delay resulting from break of gauge became intolerable . . . By 1886 arrangements were complete, and in that year some 13,000 miles of main track and 1,500

MATHERS-TRANS-ASIATIC RAIL ROAD.



miles of sidings were converted to the standard gauge of 4ft 8½ ins., the whole operation taking two days.”¹

As regards the Indian mileage, forming a part of the through trans-continental route, which would require to be converted to the broad gauge, the mileage would be about 1,000 miles in round numbers, of which the necessity of the conversion of almost 400 miles purely for domestic economical reasons has already in recent times received the consideration of the Indian Government and the Karachi Chamber of Commerce as reported in the daily press.

It will be serviceable to tabulate here the trans-Indian route of least resistance available for the land-carriage between Saidya and Karachi—2,417 miles:—

ROUTE ACROSS INDIA *via* SARA

		GAUGES	
		STANDARD	OTHER
		Miles	Miles
<i>Dibru-Saidya Railway—</i>			
Saidya to Tinsukia	...	...	29
<i>Assam Bengal Railway—</i>			
Tinsukia to Gauhati	...	...	319
<i>Eastern Bengal Railway—</i>			
Amingaon to Sara	...	...	320
Sara to Naihati	...	125	
<i>East Indian Railway—</i>			
Naihati to Katni	...	657	
<i>Great Indian Peninsula Railway—</i>			
Katni to Kotah	...	358	
Kotah to Marwar	...	150*	
<i>Jodhpur-Bikaner Railway—</i>			
Marwar to Hyderabad (Sindh)	...	...	853
<i>North Western Railway—</i>			
Hyderabad to Karachi	...	111	
		<u>1,896</u>	<u>1,021</u>

TOTAL both Gauges : 2,417 miles.

The section between Kotah and Marwar of 150 miles marked with an asterisk has not yet been constructed,

¹ Volume III., Chap. vii. p. 382.

there being at present little utility for the section; but as the desirability of constructing this length is so obvious in shortening the through route and the distance to be covered is nominal, the mileage by this prospective route has been included in the summation of the through Indian mileage.

It will be noticed that the route selected is by way of the recently constructed bridge over the Ganges at Sara, but with a bridge thrown over the Ganges at Mokameh Ghat the through distance from Saidya to Karachi would be roughly 230 miles shorter as shewn below:—

SHORT ROUTE *via* MOKAMEH GHAT

	Miles
<i>Dibru-Saidya Railway—</i>	
Saidya to Tinsukia	29
<i>Assam Bengal Railway—</i>	
Tinsukia to Gauhati	319
<i>Eastern Bengal Railway—</i>	
Amingaon to Katihar	309
<i>Bengal & North Western Railway —</i>	
Katihar to Semaria Ghat	116
<i>East Indian Railway—</i>	
Mokameh Ghat to Katni	447
Katni to Karachi as shewn in previous illustration ...	967
TOTAL	<u>2,187</u>

This route would, however, involve as intimated the bridging of the Ganges at Mokameh Ghat, as well as the conversion of 1,100 miles of railway to the standard gauge against 1,000 as shewn in the previous illustration. In either case the conversion of gauge is not a very serious question; and any capital spent thereon will be smilingly repaid, by the business which

will result from the phenomenal volume of traffic the road will derive on the establishment of through connection with the Orient.

Chinese Railways

As regards the railways of China and the probability of through rail connection being effected between India and the Orient in the near future, it may be interesting to note here the progress of those Chinese railways bearing directly on the overland project outlined. The Chinese mileage forming part of the through route has been previously shewn to be 1,682 miles from Shanghai to the China-Burma frontier, of which the section of 193 miles from Shanghai to Nanking has already been constructed. From Nanking to Hankow—a distance of 276 miles—it is understood the project is maturing; and from Hankow to Chengtu (longitude $104^{\circ} 1'$) a distance of 800 miles westward, the construction was undertaken in December 1909, and begun at Ichang (long. $111^{\circ} 2'$). It is difficult to ascertain, however, what progress has been made, and how far this latter line is at present open for traffic; but considering the construction was put in hand seven years ago practically, there should be very little of the line awaiting completion. China has of course during recent years passed through the fire of rebellion; and perhaps the line is not as far advanced as it should be. The total mileage, however, of these three sections, which have been definitely settled on and partially completed, brings Shanghai in closer overland touch with India, and leaves only a span of 603 miles between Chengtu and Saidya to be constructed. Of this latter mileage, 413 miles represent the distance to be traversed from Chengtu to the Chinese frontier, and 190 miles the distance through British territory from the latter to Saidya. Hence it will not be perhaps too optimistic to anticipate

the early probability of through railroad connection between India and China, considering the prosperity that will accrue from such a project which will tap and supply China's artery of commerce the Yang-tse-Kiang valley, and undoubtedly be a most productive enterprize. With this connection established, and in order to improve on the more circuitous route by way of the recently constructed bridge over the Ganges at Sara, we have previously pointed out the advantage in lead that would result from the bridging of the Ganges at Mokameh Ghat, which for the further development of India's internal trade alone—a matter of no ignoble importance—has been previously suggested as being a more appropriate work than the Sara viaduct. Knowing, however, as we do, the utility of the Mokameh Ghat route in respect to its central location for the exchange of commerce between territory north and south of the Ganges it is earnestly to be hoped that the bridge scheme at Mokameh Ghat proposed some years ago will materialize shortly. Assuming that the river Ganges will be bridged at Mokameh Ghat to meet trans-continental traffic requirements, or to supply internal trade demands, it will be possible then to reduce the overland lead by roughly 230 miles as already inferred. The route mileage between Shanghai and London will then be 8,878 miles, or 8,900 miles in round numbers.

Cost of Transport

Having concluded our estimate of the overland route mileage involved between Shanghai and London or picked ports on the North Sea we may next consider the question of the cost of transport.

In calculating the probable transport charges overland, between Shanghai and London or picked North Sea ports the actual cost of service statistics as obtaining on Indian and American railways have been taken

as the basis of calculation in determining the probable cost. The reason for adopting the American statistics, so far as the transactions relate to European territory, is principally because the traffic leads obtaining at present over the European roads are not by any means equivalent of the prospective leads of the trans-continental traffic under consideration; and moreover, America, from the nature of her trans-continental business, is the only country whose railroad statistics can be conveniently applied to the traffic in question. Furthermore, wages and prices compare favourably between Europe and America; and the comparison is not therefore unreasonable or unfair.

The fact should also not be lost sight of that the prospective traffic to North Sea ports will traverse an average lead of roughly 1,900 miles through Europe; and we may observe that the average lead of railways of the United States is not by any means an approach on this figure, and as such the average figure of cost we intend to utilize, if anything, is excessive; and consequently the employment of the American statistics in order to approximate the cost of service through Europe for a class of traffic of which Europe has had absolutely no previous experience is perhaps not altogether inappropriate. In view of this fact the employment of existing European statistics of working costs would probably result in greater error than computing the cost of service on the American basis of cost as we propose to do. In any case the statistics of the United States railroads are essentially the only indication we really have as a guide as to what it costs to work trans-continental traffic in a white country.

As regards the Asiatic Section of the railroad under consideration, the official statistics of cost as published by the Government of India may be reasonably applied to the prospective traffic to be transported from Shang-

hai to Scutari. Even here the average cost per train-mile figure with an average lead measured in hundreds of miles at the utmost on Indian railways is not entirely free from error on the excessive side when computing the average cost for an average lead of approximately 7,000 miles.

In respect to all roads already in existence another important fact must not, however, be overlooked, *i.e.*, that the prospective traffic will be additional traffic to these lines and the existing average cost of initial traffic must not be confused with what will be distinctly the "additional net cost"¹ of moving the additional traffic, which latter cost will be appreciably below the average figures which we intend to employ in estimating the cost of transport service between the Orient and Europe.

The United States Inter-State Commerce Commission Reports for 1910 which I have before me supply the following particulars as regards the average operating costs per train mile over the principal trunk lines. I have also noted down the open route mileage of the roads in question for the year 1910:—

	<i>Mileage</i>	<i>Average cost</i>
Canadian Pacific Railway ...	8332	\$ 1.504
Chicago & North Western Railway	7412	„ 1.306
Southern Railway ...	7197	„ 1.294
Illinois Central Railway ...	4874	„ 1.409
Atlantic Coast Line Railway ...	4229	„ 1.213
	AVERAGE	\$ 1.338

equivalent to Rs. 4-3 approximately, representing the average operating cost per train mile over the five selected trunk lines.

As regards the Asiatic Division of the prospective through route to which we propose applying the cost

¹ Term used by Colson, *cf.* his *Transports et Tarifs*. [It is equivalent to "Marginal net cost" in economic terminology.—ED.]

statistics of Indian Railways, the Administration Report issued by the Railway Department of the Government of India for the year ended 1914-15 shows that the average cost of operating a freight train one mile on the East Indian Railway is determined as being Rs. 2·035. The operating cost per train mile over the Bengal Nagpur Railway for the same period is a slightly higher figure than that recorded for the East Indian Railway. The Oudh and Rohilkhund Railway also maintain a working cost per train-mile figure in close proximity to the train mile figures of both the previously mentioned systems, and for convenience the statistics referred to may be set down as under:—

			AVERAGE COST per train mile
East Indian Railway	...	...	Rs. 2·035
Bengal Nagpur Railway	...	...	Rs. 2·300
Oudh & Rohilkhund Railway	...	...	Rs. 2·195
AVERAGE			<u>Rs. 2·176</u>

It will be as well to remark here, that it is perhaps not very difficult to approximate the extent to which the above average train-mile cost figures, registered on existing traffic, would recede, with an increase in the average haul over the railways in question. We will, however, apply the average train-mile cost figure as it stands to the average lead we anticipate, to wit, 7,000 miles over the trans-Asiatic railroad, as it does not appear necessary at present to make a further effort to prove that our working costs will be 16 *per cent* or 20 *per cent* lower than what we estimate; the figure of operating cost being sufficiently low and bearing out our speculation even though based on the average statistics as obtaining in existing traffic circumstances.

We may now proceed to estimate the operating cost per train over the entire distance, Shanghai to Europe,

8,878 miles, of which the division of continental mileage has already been indicated as being as under:—

			<i>Miles</i>
ASIATIC SECTION			
Shanghai to Constantinople	...	...	6,969
EUROPEAN SECTION			
Constantinople to North Sea Ports	...	...	1,909
TOTAL			<u>8,878</u>

Calculating at Rs. 2-3 per train mile over the Asiatic Section the total cost per train is equivalent to Rs. 15,245; and in regard to the European Section at Rs. 4-3 per train mile the total operating cost works out to Rs. 7,994. Assuming the average net tonnage of a train load as 500 tons, by no means an inflated figure for trans-continental traffic, the average cost of carrying a ton over the entire distance would be Rs. 46. It may be mentioned here, as regards the average net train loads anticipated above, that the estimate is moderate in circumstances such as trans-continental traffic where the correct volume of traffic is forthcoming, and as the best illustration on this point, we may again cite the facts of American railroads as found to exist. The figures in question for the trunk lines in three of the Eastern States are as under; which average figures, it may be mentioned, also include the retail business of the roads, *i.e.*, traffic in small parcels, or consignments not consigned or carried in car-loads. Our present discussion it appears necessary to repeat is, however, confined to through train-load traffic between the Orient and Europe:—

STATES		Average number of tons freight per train mile
Division II—New York and Pennsylvania	...	502
„ III—Ohio, Indiana and Michigan	...	457
„ IV—Virginia & Carolina North and South	...	424
AVERAGE net tons per train mile		461

It is also interesting to note the statistics of the Erie Railroad Company in this connection. Their annual report for 1915, as published for the Inter-State Commerce Commission Classifications of Revenue and Expenditure, shews the total mileage operated by the Erie Railroad Company during 1915 was 2,257 miles and the average number of tons of freight in each train is registered as being 674 tons excluding railway stores or material which when included resulted, during the year in question, in 733 tons being obtained as an average train load.

I have not overlooked the capacity and dead weight side of the types of cars in service on the American systems, and I may here conveniently remark that on the Erie Railroad the average number of tons in each loaded car was during 1915, 21.93 tons, against 21.28 during 1914. I need also remark that we have accepted 500 tons only as the average net train load in consideration of the Indian and European stock obtaining; and it is also perhaps known that on certain sections of metre-gauge railways in India a net tonnage per train of 600 tons is obtainable during the busy export traffic season, *i.e.*, when the volume of traffic is assured.

To proceed with our project, we have been able to show that we anticipate the cost of transport will be somewhere in close proximity to Rs. 46 per ton; and we have previously hinted that it would be possible to reduce this estimated cost of service by no negligible amount, at least 16 *per cent* if the special features of the trans-continental traffic were given due consideration. As, however, there is no apparent reason for our present purpose to prolong or complicate the calculation of the transport cost, we may rest satisfied with the figure we have estimated, *viz.*, Rs. 46 per ton, which if not exact, contains an error on the safe side. Allowing the carriers a profit on the transaction, and

presuming we allow them 40 per cent on cost to pay the interest on capital, we cannot be accused of being illiberal. Moreover, over more than 5,000 miles of the entire route of 8,900 miles roughly, the through traffic will be additional to that of the existing roads; and as previously pointed out the additional net cost of moving this super-traffic will be less than the average figures on which the through cost has been calculated. We will, however, appropriately fix the freight charges at Rs. 66 per ton from Shanghai to North Sea Ports, which represents a profit of $43\frac{1}{2}$ per cent on the cost per ton to the carrier. A further analysis of this freight charge shows that the commercial Indian unit charge per mile will be about $\frac{1}{20}$ th of a pie per maund per mile. This is perhaps a strikingly low figure; but the roads already in existence must always remember that admirable first axiom of railroading—"Get traffic"¹; and it would perhaps be as well not to forget that a railway line is not a clothes line. Its only business is transport; and no one has yet been able to persuade or convert it to join in any other enterprize.

As regards the roads pending construction which are all on the Asiatic side of the project, there is no doubt that, considering the volume of traffic potential to the project, a rate based on $\frac{1}{20}$ th of a pie for the long-lead-through-traffic carried across the continent of Asia will be remunerative, considering the economical conditions under which the traffic will be carried.

Comparison of Sea and Rail Freights

We have previously outlined the existing trade routes, *i.e.*, the sea, and rail-cum-sea, systems open to carry the traffic between the Orient and Europe which have hitherto shared the export and import traffic business between themselves; and, having speculated

¹ For elaboration, see "*Elements of Railway Economics*", by W. M. Ackworth, M. A.

as to the probable cost of transport overland by the proposed rail route, it will be serviceable to compare here the relative position as regards freights which the prospective overland and the existing sea routes will occupy. The comparison is as follows:—

	Per ton
	<i>Rs.</i>
All rail route (proposed)	66-0
Sea route <i>via</i> Suez (normal)	61-0
Sea-cum-rail route <i>via</i> U. S. A. (normal)	78-0

It may be here observed that a ship's, or "roomage", ton is only 40 cubic feet taken by measurement, or 2,000 lbs. when taken by weight, against a ton of 2,240 lbs. by rail, thus securing a margin of 12 *per cent* in favour of land carriage. It will also be of some practical value to note that it will not be necessary for the railroad system to maintain a through rate even equal to the lowest shipping rate. It may be safely said that in competition with the sea routes the overland route will be enabled to compete satisfactorily with a rate 25 *per cent* higher in view of the facts that agriculture and industry are land pursuits, and that railways have it always in their power to handicap their rival sea-carriers by quoting restraint rates for the comparatively short leads from the interior to the port of shipment, and again from port of discharge to destination. This restrictive rating will compensate and balance the through transport charges from point of production to consumption, and will ultimately destroy at certain inland points the hopes and prospects of sea-carriage being able to compete with the land system. It should be noted particularly in this con-

nection, that in calculating the probable through rate, we have based our calculating on the mileage from the Port of Shanghai to London. *i. e.*, the maximum mileage; but a little reflection will show that, without depreciating the average lead of the traffic to any appreciable extent sufficient to interfere with economical working, something less than the entire mileage could have been adopted as the distance basis. The greater percentage of consumption and production takes place inland; and in the matter of competition this circumstance automatically shortens the railroad service and reduces its through charges and at the same time augments the expenditure incidental to sea-carriage. Moreover the accelerated exchange of commerce will justify the sur-charge; and on these grounds alone with a rate of Rs. 82-8 per ton obtaining between Shanghai and North Sea Ports (*i. e.*, adding 25 *per cent* to the overland rate of Rs. 66 previously proposed) the charge will not be more than the traffic can bear, nor will it be unreasonable. In previous sea-freight booms the freight charges have been heavier, it will be remembered, than the charge of Rs. 82-8 per ton now proposed by the overland route; and it will be to the point to mention that the sea-freights between Shanghai and London in pre-war days, prior to the advent of competition with Japanese carriers (and its consequence—a rate-cutting war) stood at Rs. 96 per ton for the more common items of commerce.

As another instance of what the traffic will bear it will be recollected that in the great boom in freights of 1912 the sea freight from New York to London rose as high as 60 shillings a ton, the trade accommodating itself to the higher transport charge, although in normal times previous to that year sea freights were maintained much below 30 shillings a ton.

Finally, I would like to make it clear that in fixing the through rate between Shanghai and London at Rs. 66 per ton, I do not consider I have approached the minimum rate at which the traffic could be worked. I am great believer in the spirit of James J. Hill, despite official experts and their pretensions. The freight charge of Rs. 66 per ton speculated at the onset is merely an indication of the reasonable rate that may be anticipated by the land route. That is, I have endeavoured to show that it will be possible to carry the cheaper commodities of commerce, such as cereals, etc., which give a good loadability, at reasonable rates bordering on the normal and customary sea-charges levied on similar articles of inferior value and risk. Moreover it may also be said that the percentage allowed as profit, or in other words to cover interest on capital, is also only an indication of the lowest valuation. In this connection it will be readily allowed that for commodities of superior value and risk a higher charge than Rs. 66 per ton will be realised, and as such the ratio of working expenses to the charge for interest on capital will not bear the proportion of 70 to 30 as indicated by a working expense of Rs. 46 and a freight charge of only Rs. 66 per ton.

On the other hand it has also been advocated that it will be possible reasonably to levy a rate of Rs. 82 per ton on commodities of inferior risk and value without burdening the traffic unduly, or damaging the prospects of the railroad; and with this figure the percentage of operating expenses to operating revenue will be 56 *per cent*, which result compares favorably with the operating results of railways in all countries. Before leaving the subject it will be of utility to point out that the total foreign trade with China is recorded as being in the proximity of 100,000,000 tons per

annum, and roughly speaking the following indicates the distribution of this colossal trafficking:—

	<i>Per cent</i>
Russia	.... 2
Great Britain	.... 11
Hongkong	.... 32
Japan	.... 14
United States of America	.... 8
India	.... 6
Other British Territories	.... 2
Other European Countries	.... 13
Australasia and others	.... 12
	<hr/> 100 <hr/>

Hongkong, it will be noticed, absorbs the lion's share of the business; but I forget who it was that said in a reference to matters in general that "Shanghai is a surprise, but Hongkong a revelation". In regard to trade the semi-officially registered figure which credits Hongkong with being China's largest dealer must also be received with due caution. Hongkong is a free port, the flag of every nation being found flying in its waters—enemies excepted at present—and although 32 *per cent* of China's foreign trade is credited to Hongkong, a British possession, yet the pretentious record is not intended to be read too literally nor does it imply that the aforesaid 32 *per cent* represents British traffic. We have previously, I believe, hinted at our neighbour operating in that sphere, to wit—Manila. It will also be observed that while Great Britain's share is definitely stated as 11 *per cent* of the total, the United States of America have pushed themselves forward, and within a period of comparatively

short activity secured 8 *per cent* of the total as their share.

The question is therefore—"Are we to pin our faith to the primitive method of transport by sea-carriage to maintain the heritage left us by our forefathers?" With a through railroad connecting Shanghai and Europe and the United States of America out-classed, and the railways of Germany and Austria-Hungary mortgaged to the Allies in partial payment of the indemnity, with every hope of a foreclosure, the imagination runs riot at the possibility of the expansion of commerce which Great Britain, France and Russia will inherit. The mercantile fleets of the allied nations may, therefore, be reserved to concentrate their activities in those spheres where water-carriage will still hold a monopoly of service. The evidence of the time points truly to a revolution in our former methods of transporting commerce; and the maintenance of both land and water communications is fairly ubiquitously recognised to-day as being essential, they being equally important factors in preserving the old world's existence and deciding the contest for commercial supremacy. The combined method of land and water transport is a make-shift, an expedient where nothing better offers and as such it will be accessory, I believe, to its own death, with the establishment of an all-rail route between Europe and the Orient.

BUSINESS MANAGEMENT

AS A

UNIVERSITY STUDY

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Introduction

The main object of this article is to show that it is possible to develop an applied science of Business Management of the same nature and importance as is the science of engineering, and to suggest that it ought to become before long a recognised subject of courses of study under University direction, if not for a University degree.

In the Middle ages, and long after, engineering works such as bridges, dams, and embankments, were constructed according to empirical rules which were the result of many centuries of dearly bought experience. Many bridges fell and houses collapsed before it was discovered how arches must be set and keyed and what span could be safely crossed with a beam of given thickness supporting an ordinary weight. So long as the conditions were not unusual these rules of thumb served for practical purposes, though a waste of material arose from a desire to be well on the safe side, and inconvenience was caused by the impossibility of safely departing from the conventional form of the structure. Whenever the conditions made it practically

impossible to build in the customary manner there were two alternative courses open: either to build nothing and so risk nothing, or to try a new form of construction and take the risk of its proving unstable. How foreign is all this to our modern ideas! Beginning slowly in the seventeenth century, and developing rapidly in the nineteenth, a great science of engineering has grown up which enables us to build almost any form of building, bridge or other work with the minimum of waste, to give the maximum of convenience, with the practical certainty that it will with complete safety adequately serve the purpose for which it was designed.

In business management we are just beginning to emerge from the long era of rule of thumb methods. We have only reached the same stage of development as had been attained already in the science of engineering a century ago. I am not, of course, speaking of the technical processes of production or manufacture, but of the organisation, and of the commercial and financial sides of business activity. It was possible in England fifty years ago, for example, for a manufacturer to make profits by simply telling his foreman or manager to engage hands and set the machinery going on raw material which he had bought with some care, and by selling the finished goods as they came from the factory, at the best prices the old-standing merchants would give. To the wastes going on in his mill or factory he gave little or no thought; of the actual cost of manufacturing his different lines of goods, and their relative profitableness he knew nothing. If his customers complained of faults in his goods, he had the greatest trouble in finding out what was wrong and who was responsible; if his work-people struck he was surprised and indignant, and often entirely dependent on his foremen for explanations of the matters in

dispute. Some of the points arising out of them might be new to him, so that he was puzzled and helpless. Finally, he was content to work for a whole year in blissful ignorance of what profit he was making, sometimes with little care as to how stocks and credits were piling up, patiently confident that the end of the year would show him not merely solvent, but with the usual fair and reasonable profit.

Beneficent competition, British as well as American and German, has already altered this, and has already greatly increased the earning power of the British people in consequence of their having become more efficient. By careful study waste is now reduced to a minimum both in the works and in the office; the exact cost of manufacturing each kind of goods, or even the cost of every individual article made, is systematically ascertained so that the more profitable business can be pushed, and costs be reduced. Systems of tracing faults to their sources have been devised. Employers are at last beginning to study their workpeople as carefully as they study markets and machinery, so that their work may be stimulated and improved, and all real grievances may be set right. Stocks and credits are reported daily or weekly or monthly as a continual check upon the operation of the whole business.

Literature of Business Management

Many American and English firms, particularly in the engineering and allied industries, have already achieved these advances; and within the past twenty years a literature dealing first with commercial practice and office management, and then with accountancy in factories, and later with the planning of factories, their organization, and methods of cost accounting, and systems of selling and advertizing, has gradually come into existence. But such books, important as are some of

those recently issued, are still pitifully few when contrasted with the vast importance of the subject—some four or five book-shelves in a library would hold all those which are in any way scholarly or reliable works. Yet it is a healthy sign of the times that the literature on business management and organization, and cost accounts, is growing more and more rapidly—chiefly in America; but also to some extent in England and other countries.

In making a survey of the literature of business management, it is apparent at once that it covers a very wide field. After an examination of such books in England, and amongst the recent acquisitions of the Allahabad University Library, besides inspecting the catalogues of numerous English and American publishers, I find that the books with which we are now concerned may be classified conveniently into a number of groups, which may again be subdivided. It will be best first of all to set forth this classification in outline so as to give a bird's-eye-view of the whole subject; and I shall then proceed briefly to discuss the different classes of books, naming those of most importance, and indicating what information or service they can give. It must be understood that I have purposely omitted from the literature of business management several categories of books with which the public are familiar, because, though undoubtedly related to commerce and industry, and even to management, they do not deal with the latter subject specifically. I refer to such books as those on book-keeping and accountancy, so far as they relate only to the ordinary financial books of a firm, and neither to cost accounts nor to the special forms of accounts required by special businesses. The latter it seems logical to include in my classification; for it is part of the art of management to apply the principles of accountancy to the particular business in hand. I

have also omitted all elementary text-books on office-routine, and commercial studies generally, which are written for the assistance of junior clerks rather than managers, and I have also omitted books which are primarily legal, or mainly scientific or technical. All books on commercial geography, and descriptive of trades and industries, of currency, banking, and so forth, I have omitted as belonging properly to the subject of descriptive economics. Books of all these kinds may be kept at hand and be studied with profit by managers; but it is necessary to restrict my survey to books which deal with the art of management itself. This term I am here using in its widest sense, to include the organization of new businesses and also extensions and re-organizations.

CLASSIFICATION OF BOOKS RELATING TO BUSINESS MANAGEMENT

GROUPS

I. General—

- (1) General works on principles of conducting business
- (2) Encyclopedias and dictionaries

II. Office Routine.

III. Secretarial Works.

IV. Joint Stock Companies—

- (1) Directors' and secretaries' manuals
- (2) Legal handbooks

V. Commercial Practice and Law.

VI. Finance—

- (1) Flotation, re-organization and amalgamation of companies and firms
- (2) Depreciation and sinking funds
- (3) Investment, choice, control and accounting

VII. Works and Factory Organization and Management—

- (1) Executive control
- (2) Factory planning and organization
- (3) Cost accounting
- (4) "Practical" management
- (5) Scientific management

VIII. Management of Labor—

- (1) Selection and control of workmen
- (2) Fatigue and overstrain (including working hours)
- (3) Methods of remuneration (wages systems)
- (4) Worker's welfare

IX. Efficiency—

- (1) General works on in all, on various, occupations.
- (2) Of manual labor.
- (3) Psychology of mental operations of business.
- (4) Psychology of manual operations.

X. Sale of Goods (wholesale).

XI. Advertising.

XII. Retail Sale of Goods—

- (1) Shops
- (2) Mail order systems

XIII. Special Businesses and Trades—the management and accountancy of.

XIV. Graphic methods of presenting business facts.

The above named groups and sub-groups may now be considered *seriatim* with a view to describing the kinds of books belonging to them and mentioning a few of those most conspicuous for their importance or novelty.

I.(1) General Works on the principles of conducting business. These books are not works on economics, which is the pure theory of business in its social aspects; nor are they even books of applied economics, except to a small degree. They are designed to systematize knowledge of those principles of business methods and

administration which are of general application in various classes of business undertakings. *Economics of Business* by Norris A. Brisco (N. Y., The Macmillan Co.) is a good example. It is a valuable, if rather brief, survey of the whole field; and at the end of each chapter is a most useful bibliography, which includes practically all the important practical books on all branches of business published up to 1910. The following are the titles of its chapters: The Economic Basis of Business—Types of Business Organizations—Interior Organization—The Principles of Management—The Entrepreneur—Analysis of Cost Accounting—Factory Efficiency—Efficient Business Methods—Labor Efficiency—Buying—Selling—Principles of Advertising—Mediums of Advertising—Money and Credit—Trade Marks and Copyrights—Patents, Trade Names and Trade Secrets.

II.(2) Encyclopedias and Dictionaries. Several comprehensive and massive books of reference on business practice, commercial law and custom, accountancy and works organization and management have been published in recent years. Although much of the information relates to English or American conditions, according to the country of publication, the articles relating to such general subjects as accountancy and management cannot fail to be of service to commercial men and managers in India. The most important of such works probably are *Modern Business Practice*¹, and *The Business Encyclopedia and Legal Adviser*, a work in nine volumes.² The *Library of Business Practice*, published by Messrs. A. W. Shaw & Co., might be included in this group; though as each book deals with a distinct subject it is perhaps better to assign each volume to its appropriate group in my classification.

There are two well-known periodicals devoted to the interests of greater efficiency in business: the older is

¹ Eight vols; Gresham Publishing Co., London.

² The Caxton Publishing Co., London.

called *System*, and the newer *Business*, (Pubd. at Detroit, U.S.A.) Both appear monthly, and frequently contain very suggestive articles describing the advanced methods of up-to-date and leading firms—chiefly American and English. A set of the back volumes of one of these periodicals forms in itself quite a useful little mine of information on modern efficiency devices; and is especially useful for stimulating interest, and in the elementary stages of study. Careful reading of special works is, however, absolutely necessary in order to acquire such fuller knowledge of improved scientific methods of advertising, factory organisation, cost accounting, and so forth, as would be useful in practice.

II. Office Routine.—Books which I am obliged to put together in this class are really very varied in character, ranging from elementary books like Clemson's *Office Procedure* which describes the usual English methods, to A. W. Shaw & Co.'s *How to Manage an Office*, which is full of new ideas and useful suggestions for attaining office efficiency, to abstruse books on organization and the functions of an executive, and learned books on filing and indexing. Mr. W. H. Williams' book *The Railroad Correspondence File*, Mr. J. Kaiser's *Card System at the Office* and *Systematic Indexing* and Mr. J. D. Brown's *Subject Classification* are interesting examples of the latter class. Although the last mentioned, like most books on classifying and indexing, is intended primarily for librarians, it is useful in suggesting a classification for filing the kind of information which every up-to-date business firm should collect in regard to the field of its operations. A good general book is L. R. Dicksee's *Office organization and Management*.

III. Secretarial Handbooks.—These have been written to explain in detail to private secretaries and their employers the duties, responsibilities and routine of a

secretary's work. A well-known elementary, but very useful, book of this class is Sir Courtenay Boyle's *Hints on the Conduct of Business*; and a more ambitious book is H. E. Blain's *Secretary's Handbook*. Every man of affairs whether engaged in commerce, or occupying a Government or professional position, should have a personal assistant who is not burdened with the charge of an office; and it will probably be to the mutual advantage both of the busy man and of his assistant to study some of these books, and select the best methods by trial.

IV. *Joint Stock Companies*—(1) *Directors' and Secretaries' Manuals*.—There are many useful books of this class to guide company officers in England and America through the intricacies of the legal formalities and regulations with which they are bound to comply.¹ The Indian companies Act of 1913, is based on the English Act of 1908; but differs from it in certain features. Consequently, whilst it is best to consult some of the English handbooks in order to gain a just appreciation of the obligations, duties and responsibilities of company officers, it is necessary to consult books on the Indian Companies Act in order to become familiar with the details of incorporation and annual returns and other necessary formalities. The books on the Indian Companies Act available are W. H. Edwards' *Guide to the Indian Companies Act* (Thacker, Spink & Co., Calcutta: 1915), and Buckland's *The Indian Companies Act of 1913 with the Amending Act of 1914 incorporated*.

V. *Commercial Practice and Law*.—There are numerous well known and standard works falling in this group. Most of the books are to a greater or less extent popular expositions of commercial law.

¹ Several books of this class, and of the other classes II to V, VI (2) and VII (3) may be found enumerated in a Catalogue issued by Messrs Taraporevala, Sons & Co., 103 Meadows Street, Bombay, which will be sent free on application to this firm.

Modern developments of this literature are in two directions: (1) towards elementary expositions of commercial law and practice in simple language such as are published by Pitman's; and (2) towards specialized treatises on new developments of commercial practice, such as *Mercantile Credits*, by Kallman and others (Ronald Press Co., N.Y., 1914), which deals with all the methods by which merchants and manufacturers may best obtain and give credit; assessing the credit of customers; dealing with banks; credit agencies; commercial insurance; and so forth.

VI. *Finance*—(1) *Flotation, re-organization and amalgamation of companies and firms*.—Books in this sub-group fall again into three classes: (a) those covering the whole question of the various methods of financing and amalgamating industrial and commercial enterprises from a practical point of view; (b) those dealing with financing by particular methods, such as partnerships, or by turning private firms into limited liability companies; (c) the public flotation of new companies. It is to be understood that in each sub-group we may have books of a severely practical character, and also books of an economic descriptive character, designed to enlighten the outsider rather than to assist the business man.

A first-rate book in subsection (a) is *Financing an Enterprise* by Francis Cooper (4th ed., 1915; Ronald Press, N.Y.) which deals in detail with all the usually available methods of finding funds to develop an industrial undertaking, whether privately or by forming a limited company. This book ought to be far more widely known in India. A careful study of it on the part of Indian promoters and investors would have saved many of the failures of the past decade. There are numerous English and American books falling in subsections (b) and (c) but I do not think that

any of them are of outstanding merit or widely known.

VI(2). *Depreciation and Sinking Funds*.—These include highly specialized books for accountants on Depreciation; but the smaller books, such as P. D. Leake's *Depreciation and Wasting Assets* (Henry Gord, London; 1912) or E. A. Saliers' *Principles of Depreciation* (Ronald Press, N.Y., 1915), should be studied by general managers and directors of all industrial and transport companies. A standard work on the very technical subject of sinking funds is E. H. Turner's *The Repayment of Local and Other Loans* (Sherratt and Hughes: The University Press, Manchester; 1913).

VI(3). *Investments—Choice, Control, and Accounting of*.—In this class are placed books designed to aid investors of large funds in realizing the maximum of yield combined with the maximum of security. Such scientific investment as these books advocate depends mainly on the wide distribution of funds geographically and by industries in order to realise security, and upon taking advantage of the cyclical fluctuation of prices to increase the yield. The "Financial Review of Reviews" is a London periodical which has done much to popularise sound principles of investment, but the literature is mainly American.* It should be studied with care by the managers of banks, insurance and trust companies, and also by trustees and others who may have large funds to invest.

VII. *Works and Factory Organization and Management*.—The number of books relating to methods of management and increased efficiency in factories and engineering works which have been appearing in recent years may be regarded as one of the most interesting features

* Many of these books are published by the Financial Publishing Co., 7, Hancock Avenue, Boston, Mass. U.S.A. Babson's *Business Barometers* deals with forecasting the investment cycle. *Cycles of Speculation* by T. Gibson (Moody Co., N.Y.) is a suggestive book. A book dealing in a different manner with the principal capitalist industries, mainly English, is *The Business Prospects Year-Book*, by Joseph Davies and C.P. Hailey, published by the Business Statistics Publishing Co.

of the twentieth century. The growth of such a literature denotes a new attitude on the part of business men towards the public in regard to the knowledge and experience which they have accumulated in the course of their business careers. In the old days, if a man developed or discovered a specially efficient method of doing business he did not speak or write about it, but preserved the new ideas for the exclusive use of his firm, almost like a trade secret. A more liberal spirit is now abroad, and men who have successfully adopted new methods and have become wealthy thereby are ready, and even eager to give the public the benefit of knowing their successful experiments in detail.

Another class of books, often dealing more satisfactorily with general principles, but purposely omitting the details of the application of new methods, is written by professional experts—cost accountants, and the “production experts” of America—who hope that the publicity of the book will increase their practice. Such authors, who have been trained as accountants and have afterwards become engaged in introducing costing systems, tend naturally to concern themselves mainly with the organization, and with the office and storage arrangements, of the factories. Books of the previously mentioned class, written by successful proprietors and managers of businesses, may be distinguished at once by their different emphasis, which falls on the practical issues which engage the constant attention of directors and managers; and these authors relegate the accountancy problems of management to their proper sphere as aids to business success, rather than as an end in themselves, as some of the other books suggest.

A third, and very welcome, class of books on this subject has quite recently made its appearance, namely those written by holders of the chairs of Industry and of Business Administration which have lately been

established in several American universities and technical colleges. A notable example is *The Elements of Industrial Management* by J. Russell Smith (Lippincott Co., Philadelphia., U. S. A., 1915), a book which may be usefully consulted by all proprietors or intending promoters of industrial enterprises, and by students of economics.

Other noteworthy recent books on works and factory management are: *The Principles of Industrial Management* by J. C. Duncan; *Factory Organization and Administration* by Hugo Diemer; *Profit-making Management* by C. U. Carpenter; and the *Library of Factory Management* (published by A. W. Shaw & Co.).

As regards the subclasses we may note that books on (1) *Executive Control* are mainly American, as for example, *Modern Organization* by C. de L. Hine which deals with the principles of control illustrated by American railroad organization, and *The Business Administrator* by E. D. Jones, a more academic study; and that books on (2) *Factory Planning and Organization* are partly English, but mainly American. A good book on the laying out of factories and works is *Industrial Plants* by C. Day. Works on the important subject of (3) *Cost Accounting* were some of the earliest of any class of books directed to securing increased efficiency in industrial establishments. An early well known book is by Garcke and Fels on *Factory Accounts*. A useful little book giving a succinct account of the main features of the subject is *Cost Accounts: the Key to Economy in Manufacture* by W. Strahan (London: Stevens & Haynes, 3rd ed. 1909). Amongst a great number of recent American books on the subject, I may mention *Cost Accounting in Theory and Practice* by J. L. Nicholson (Ronald Press, N. Y., 1915); and *Factory Costs* by F. E. Webner (Ronald Press, 1911). The last is a very comprehensive work of nearly 600 pages. It

contains very numerous specimen forms which are of great use in illustrating methods now coming widely into use in America. A word of warning is perhaps necessary, however, against the hasty adoption of a costing system into any business, and particularly against the unconsidered adoption of the necessary forms exactly as devised for some other firm in the same trade. A particular business is a kind of living organism, and a costing system needs to be adapted on certain broad principles to meet the individual peculiarities of the business, just as much as a suit of clothes needs to be made to fit a man, or a bridge to be designed for a particular crossing of a river.

Books of the type which I would class under the heading (4) "*Practical*" Management are those attempting no systematic or scientific treatment of the subject, but relating the experience actually gathered by the author during many years management of some factory or works. They cannot in the least serve the purpose of books on cost accounting or scientific management; but many of them contain useful hints. They are of considerable interest to economists as helping to bring him into closer touch with the work of managers, the difficulties encountered by them, and their point of view.

(5) *Scientific Management*. The rapidly growing literature on this subject dates from the publication in 1911 of *The Principles of Scientific Management* by F. W. Taylor (Harper Bros., N. Y.). This well known and important book analyses the principles underlying the working of machinery and the labor staff and lays down methods which had been thoroughly tested during many years previously by the author, which enormously increase the output efficiency of any concern where they are applied. It is not merely a question of developing piece or task work with a view to driving

labor more severely; but rather a method in which the work demanded of the workmen is studied in relation to the particular machines or presses which they have to operate as intimately as the machines themselves are studied for the adaptation of the details of their design to the work they have to perform. Mr. Taylor's book has been followed by a flood of literature on scientific management of more or less value—principally less. A number of the more important papers and articles on the subject have been collected and reprinted in a volume entitled *Scientific Management* by Mr. C. B. Thompson, Lecturer on Manufacturing in the Harvard University¹.

VIII. Management of Labor.—Here again the literature is mostly of recent date, and three-fourths American, so far as writings in the English language are concerned. A well known book by an American author is Gantt's *Work, Wages and Profits*. Space will not allow me to describe separately the subdivisions of this class (indicated on p. 333), and I shall content myself with mentioning a representative book of each subdivision. On the selection and control of workmen two little books published by A. W. Shaw & Co.—*How to get Workmen* and *How to Manage Men*—are very practical and useful. A study of fatigue and overstrain and the legal regulation of hours is *Fatigue and Efficiency*, by J. Goldmark.² An old and well known book on wages systems is Schloss's *Methods of Industrial Remuneration* (Williams and Norgate). The number of books on welfare work for factory operatives has grown rapidly in recent years. Only those describing such work as is undertaken by, or on the initiative of the proprietors of works and factories should be included here under the general heading "Management of Labor." Such books

¹ Published by the Harvard University Press, Cambridge, Mass., U.S.A.

² Published for the Russell Sage Foundation by Survey Associates, Inc., 105 E. 22nd St., N. Y.

express the conviction and experience of numerous factory owners that attention to the well-being of their workmen of all grades—both in and out of working hours—is in some degree a moral obligation, and is in every case good business. The study of and care for employees as an essential part of business organization is nowhere better described than by Edward Cadbury in his *Experiments in Industrial Organization* (Longmans, 1912), which details the system of a great and successful English firm.

IX. *Efficiency*. Books directed to the study of general and theoretical aspects of efficiency are almost entirely American, and to some extent German. They are very varied in character, and have much of the crudity and incompleteness which may be expected in a new field of study. The classification has already been indicated, and I need only mention a few books of special interest. A general book on the subject is H. Emerson's *Twelve Principles of Efficiency*, whilst on the efficiency of manual labor a book worth studying is *Experiences in Efficiency*, by B. A. Franklin. A book of outstanding importance which deals with efficiency from the point of view of the psychology of mental and manual operations, and provides a scientific guide to the choice of men for various types of employment, is Hugo Münsterberg's *Psychology and Industrial Efficiency* (Constable, 1913). An interesting and suggestive book falling in this class is *Influencing Men in Business* by W. D. Scott, in which he analyses the processes of deliberation and suggestion and shows how far each enters respectively into the decisions leading to action in different kinds of business. The latter half of this book is mainly devoted to the psychology of advertizing.

Space does not admit of my dealing separately with the remaining classes of books. Books on adver-

tizing published in America may almost be numbered by hundreds, whilst there are not a few English books on the subject. The organization and policy of the Sales Department of a manufacturing or wholesale business is the theme of a score or so of American books; whilst a literature dealing with retail business is also coming rapidly into prominence. Special businesses and trades are also receiving attention separately. There are many practical books on the management of engineering works, and some on the management and accountancy, including cost accounts, of textile mills, paper mills, coal mines, banks, insurance companies, and so forth.

A final class (No. XIV. on p. 333) has been provided for books on graphic methods of presenting business facts. They deal with the recording of statistics of output, both total, and per hand employed, of cost per unit, of prices, and fluctuations of stores, etc., in the form of charts; and with the use of maps, plans, and other graphic devices as aids to the ready focussing of large masses of facts and figures. The use of graphs with proper understanding is a most important means of saving mental labor, and often of obtaining knowledge which would otherwise escape attention. A practical book of this class is *Graphic Methods of Presenting Facts* by W. C. Brinton (Engineering Magazine Co., N. Y.).

It may be convenient, perhaps, to some of my readers if I mention those amongst the books referred to in the foregoing survey of the literature of business management which appear to me to be of outstanding importance, from the point of view of their novelty whether in the principles which they set forth or in their orderly presentment of facts. These books are noteworthy mainly because they indicate the greatly increased attention which is being given to the study of the human side of the organized productive activities of

modern civilization. They represent the inauguration of a new era, and the application of science, in a domain where rule of thumb has remained supreme for a century longer than in the technical handling of machinery and materials.

LIST OF BOOKS OF SPECIAL IMPORTANCE

COOPER, *Financing an Enterprize*

TAYLOR, *Principles of Scientific Management*

CADBURY, *Experiments in Industrial Organization*

MUNSTERBERG, *Psychology and Industrial Efficiency*.

Books such as the others I have named are in most cases necessary to fill in the practical details whereby the principles enunciated in Taylor's and Münsterberg's books may be applied.

University Courses in Business Management

If my anticipations prove correct, there is a great future before the scientific study of business methods and policy. The foregoing somewhat lengthy survey of the literature of business management, both commercial and industrial, has been given with a view to showing that the subject is already large in its scope and has tended in recent years to become specialised and technical. The conviction gained from the perusal of the books themselves, if not by the above description of them, is that the subject of business management is in every way as well suited for adoption as a university course as is the subject of engineering. In England no university of standing is now without its schools of engineering and of technology in the principal local industry; and we may confidently predict that those universities, like London, Manchester and Birmingham, which have already each established a flourishing

School of Commerce, will found chairs of Industrial Management before many years have passed.

The functions of a University in regard to any subject of study extend in two directions: on the one hand to the provision of advanced teaching and to the direction of the elementary teaching of the subject; and on the other hand to the furtherance of learning and research in connection with the subject. It is difficult to conceive any valid reason why universities should not exercise these functions in respect of business management amongst other subjects of an equally practical and utilitarian nature which they have already taken under their wings.

As the above review of the literature of the subject shows, there has already been a good deal of study and writing on various aspects of management—commercial and industrial. Yet it is only in the very recent books of the four or five American professors who have specially devoted their time to the science of business methods that one finds any attempt at an ordered and systematic presentation of the subject such as it is essential to have available before it can be made profitably a subject of academic study. Consequently it would seem that the primary and principal duties of any professors of Business Management who may be appointed, during the first few years, should be to observe and record the existing practice of commercial and industrial firms, noting particularly the experiments, successful and unsuccessful, in new methods. But the function of the professor is not merely to make and collect records of existing practice and collate them in text-books and works of reference. His most important duty is to look below the surface of things, and find out the general principles which underlie the facts he catalogues. He must search for what have been the real, though often unknown reasons why some people

cular method seemed the best to adopt under the circumstances. By so discovering ultimate causes and indicating what precepts as to practical actions follow from them the professor of business management would be following in the footsteps of the economists, but in a sphere much more closely associated with the practical working of a business. There is indeed, as business men instinctively feel, a wide gap to be filled between pure economic theory and the realities of the commercial world; and if academic men with an interest in business can be found to devote themselves to this new field of study they will render a great service to their country and to civilization.

The teaching of business management which we may look forward to being ultimately developed at our universities must by the nature of the subject be very largely practical, that is to say, if it is to be taught thoroughly and with the object of turning out scientifically trained managers. The student will no doubt attend lectures in economics, accountancy, commercial law, statistics, commercial practice, and business organisation and management; but he must spend one or two years at least in a model office and factory run by or for the university as a training establishment, where he may be tested as regards his powers of organization and of controlling men, learn the practical working of cost accounting, and acquire good executive habits.

The power of dealing with men effectively, and of organizing and controlling their work, whilst it may be greatly assisted by modern efficiency devices, appears to be an innate quality—an inherited characteristic—possessed by a comparatively few persons. It is a temperamental quality which cannot be taught—at least no teaching given later than early childhood can produce it. The percentage of persons possessing this power of organizing men varies amongst different

peoples, and is a great factor in the rapidity of growth of large-scale industries. The percentage of such persons seems to be larger in the North of England than in the South, owing to racial or climatic differences. It is probable that there is a still smaller percentage in India. It is, therefore, all the more important that the discovery of persons who have a natural aptitude for controlling men should be systematized, suitable tests being devised and applied, preferably at the secondary schools, according to the psychological methods recommended by Münsterberg in his *Psychology and Industrial Efficiency* above mentioned. Amongst the students who may enter for any course of business management which may be established in an Indian University, there will naturally be differences in regard to the degree in which the power of controlling men is possessed. It would be advisable that searching tests, both experimental and practical, should be made during the first year of attendance with a view to determining definitely the capacity of each student in regard to the qualities resulting from inheritance and from early training or environment. Students would then be directed into the branch of business work for which they are naturally best adapted; and careers, at least moderately successful, would be assured to them if they were industrious. Those who have not the requisite powers of controlling men to become factory or works managers might become accountants, or specialists in cost accounting systems; or they might study the technique of some particular industry and become consulting experts whose value would be greater because they had a general business knowledge. Others again might develop into the financial experts of industry. Although not themselves capable of managing a large concern, they would have made a thorough study of business methods and organization, and would have followed that by a study of

the financial operations of promoting and re-organizing companies.

Hence a Business School in connection with a university may turn out men equipped with the requisite knowledge for working their way up rapidly into many different spheres of business activity, as they gain experience in actual business employment. The training of such students must always be an expensive matter, for it could not be possible to train more than a small number with the requisite degree of thoroughness. The same limitation of numbers would be necessary as is practised in regard to the Civil Engineer Class at the Thomason College of Engineering at Roorkee.

The foregoing paragraphs relate to the teaching of men to occupy the higher positions in commerce and in industry. It is also desirable that some training in management, as well as in technique, should be given to men who may not be able to spend a long time over their education. They can be trained to become more efficient foremen, or superintendents of departments, to become better salesmen or assistant managers. Such lower grade business training would probably not be carried on actually at the university, but rather in technical business schools situated in all the principal large towns. If business management departments should be established at the universities, however, it would be most desirable that universities should be given a certain measure of, or entire, control over these business schools so that the knowledge, experience and ideals of the professors in the subject might be made use of in the technical schools, and co-ordination in the lines of development be secured.

There are two main obstacles to the development of business training in the universities and technical schools in India—firstly the difficulty of securing the

right men to organise and carry on the teaching work; and secondly want of the requisite funds, the recurring expenditure necessary being obviously considerable if any appreciable result is to be obtained.

The object of this article is to call attention to the importance of the subject, in the hope that university authorities may be induced to study the ways and means of carrying it into effect. It would be eminently worthy of India's national aspirations if one or more of the wealthy merchant princes of Bombay and Calcutta were to follow the example of American millionaires, by endowing university chairs and lecture-ships for this purpose, donating also a sufficient sum to cover the cost of adequately equipping a special building for the department. There is no doubt that, when once the initiative had been taken and successfully carried into effect, such departments would spring up in many different centres; and within a generation the movement would have a decisive effect upon the growth of Indian industries.

A PRELIMINARY NOTE ON PAUPERISM IN INDIA

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"But what of those who are not good enough for the ranks?"
SMART

. *Introductory*

A characteristic feature of the growth of democracy in modern times has been the tendency to place destitution in the forefront of all questions of a socio-economic nature. The problem has been widely studied in its various aspects both in Europe and America; and though there is, naturally enough, a wide divergence of opinion as to ultimate causes and remedies, it is generally recognised that the destitution of any part of a country's population is in the nature of a disease in the body politic, which must not only be cured, but any recurrence of it must be prevented. As a matter of fact considerable progress has already been made in this direction in most of the civilized countries, especially of the West. In England one of the most remarkable features of recent times has been the extension of the sphere of state activity which has manifested itself in a large volume of social legislation, calculated to achieve a twofold purpose—to improve the lot of those who are poor and destitute and turn as many of them as are capable into strong self-supporting citizens, and secondly

to stop fresh recruitment to their ranks. Old Age Pensions, National Health and Unemployment Insurance, Labour Exchanges and Free Schools are but some of the instances in point.

Destitution in India

The term destitution has been variously defined by different authors. The English Royal Commission on the Aged Poor of 1895 held that "Destitution might be taken in practice to mean want of the reasonable necessities of life such as food, lodging, warmth, clothing and medical attendance according to the normal standard of the time". This definition is a little vague, particularly the phrase "normal standard of the time." The official Poor Law definition of "destitution" according to the deposition of the Legal Adviser of the Local Government Board before the Poor Law Commission of 1905-9 was the following—"Destitution when used to describe the condition of a person as a subject for relief implies that he is for the time being without material resources (i) directly available, and (ii) appropriate for satisfying his physical needs whether (a) actually existing or (b) likely to arise immediately. By physical needs in this definition are meant such needs as must be satisfied (i) in order to maintain life or (ii) in order to obviate, mitigate or remove causes endangering life or likely to endanger life or impair health or bodily fitness for self-support.¹"

Mr. and Mrs. Webb's own definition may also be quoted. They say—"By destitution we mean the condition of being without one or other of the necessities of life in such a way that health and strength and even vitality is so impaired as to eventually imperil life itself. Nor is it merely a physical state. It is indeed a special feature of destitution in modern

¹ Quoted by Sidney and Beatrice Webb in their book *Prevention of Destitution*. Longmans Green & Co., 1912.

urban communities that it means not merely a lack of food, clothing and shelter, but also a condition of mental degradation".

Viewed in the light of these definitions the number of destitute persons in a country where, according to the generally accepted estimate, the average annual income per head of population does not exceed thirty rupees, might be expected to be enormous. As a matter of fact there is in existence in this country quite a large class of persons including in its ranks destitutes of every description—the poor sick or permanently broken down adult who would not be destitute but for his sickness or infirmity, the poor widow with children on her hands rendered destitute by the sudden or premature death of the family breadwinner, the aged and the infirm with no one to look after them, and finally the able-bodied destitute who either cannot, owing to lack of knowledge, or to incapacity, or will not, find employment. It remains true, none the less, that no systematic attempt has yet been made here to study destitution in its many aspects.

The reasons for this indifference are to be found, I think, in the religious, social, political and economic peculiarities of India. The two chief religions of this country, Hinduism and Mohammedanism, both hold up *sadhus* and *faqirs* not only as objects of charity, but also of reverence. Alms-giving is imposed as a highly sacred obligation on every individual. And perhaps in the old days, when our *sadhus* and *faqirs* were true religious devotees who surrendered themselves entirely to the contemplation and worship of the Deity, it was but proper that they should be spared all baser but withal necessary distractions in the shape of having to earn their own bread. There was then no danger of indiscriminate charity, with all its attendant evils. But things are changing now. How many

of the hundreds of thousands of obviously healthy able-bodied persons who call themselves *sadhus* or *faqirs* are true religious devotees, or indeed have any religion at all? I have made it a point to question closely any *sadhu* who approaches me for alms, and I have not been surprised to find that in nine cases out of ten, the man breaks down completely after one or two questions. I do not mean to say that there are no longer any religious devotees in India, but I am fully sure that a large majority of the gentlemen-at-large who masquerade as *sadhus* are no more than good-for-nothing idlers who take advantage of an ignorant and much too charitable people to live lives of utter worthlessness.

As regards our social peculiarities, the one that stands out most prominently in this connection, is the joint family system. Under this system, no one who has the least pretence to self-respect is supposed to allow any member of his family to go out and beg: good, bad or indifferent, idler or infirm, he has to be supported by the family. But here too a change is gradually coming over Indian society. Under the pressure of strong forces acting both from within and from without, the joint family system is slowly breaking up. I have come across many cases of able-bodied beggars and infirm destitutes who have well-to-do, in some cases even rich, relatives, who do not care to help them, and what is more, who do not regard such an attitude as in any way humiliating to themselves.

Of political peculiarities the form of Indian Government is perhaps the most striking. In a democratic country, having a system of party Government, political altruism is bound to develop—to capture votes if for nothing else. A bureaucracy, on the other hand, is not obliged to cater for popular favour in order to justify and continue its existence. And if that bureaucracy

is composed mainly of men who have not been borne or bred in the country, then, however beneficent its intentions, however sympathetic its attitude, it is not likely even to realise properly the wants of the lowest classes of society. I think personally that this is possibly one of the reasons why the question of destitution has not attracted the attention of the Government, except in times of famine, when the distress has been so widespread and intense that it could not possibly be overlooked. But in this respect too a change is discernable. The larger association of Indians in the Government of the country, the increased facilities for criticism, questions, and resolutions afforded by the present legislative councils, and finally the growth of local self-government, all afford opportunities for the development as well as display of political altruism. Leaders of public opinion in India find it necessary and advantageous to ascertain popular wants and to press them on the attention of the Government. Some measure to remedy and prevent destitution is, I think, one of these wants, though so far an unvoiced one generally.

Economically it is a fact, though a lamentable one, that until very recently we have been content with a singularly passive role in the scheme of competitive international industry. While we have been looking on, other countries have taken our raw products from us, manufactured them into finished goods, and sent them back to our country. But there are already broad signs of discontent on the economic horizon. Even the Government has been forced to realize that we can no longer continue to be "drawers of water and hewers of wood" for the benefit of other nations. We must fight for our proper place in the scheme of international industry. But if we are to do that we cannot afford to let any appreciable part of our

population exist in a state of chronic destitution, for widespread destitution means economic stagnation.

It will appear, therefore, that we can no longer afford to neglect the question of destitution in this country, and the urgency of facing it will become more insistent as the economic transition through which we are now passing becomes more rapid and pronounced, involving the rise of a wage-earning class living in overcrowded cities, the breaking up of the joint family system and so on. Destitution, however, is a large subject which cannot be adequately discussed without the help of much data that is not at present available in regard to our country. It is therefore proposed to take up here only one side of destitution, namely pauperism.

Pauperism

Like the larger problem of destitution this question too has received little attention in this country, and there is therefore not much data available to guide us in handling it. It is proposed in this paper to direct attention to the general outlines of the question and to show that at any rate our present attitude towards pauperism is no longer tenable ; that it is not only economically unsound and wasteful but also morally unjust.

Who is a pauper? According to Palgrave's Dictionary of Political Economy: "The pauper in the eye of the law and in the technical sense is a destitute person in receipt of relief administered under the poor law". This definition is appropriate enough so far as England and other European countries, having a definite system of poor relief, are concerned, but it will obviously not apply to India where there is not only no poor law, but also no organised system of private charity. Two points, however, emerge from this definition. In the first place a pauper is not merely a poor person, for poverty is only a relative term, and has

reference to some standard of comfort, however that standard may be determined. Secondly he is also not merely a destitute person, for destitution does not necessarily imply living on charity. There is admittedly a very large number of persons in this country who cannot get even a square meal every day, and whose health and strength are therefore continuously failing, but who would laugh to scorn the idea of receiving charity. Such persons are obviously destitutes, but it would scarcely be correct to call them paupers. Keeping these two points in view we may attempt a definition of the term "pauper", which will apply to this country. My own definition is something like this. "A pauper is a destitute person who depends for all or some of the necessities of life on begging or on otherwise receiving charity or on things or money which have been received as charity by others, or who supplements his earnings or income from some other source by begging or otherwise receiving charity regularly or during certain parts of a year." This is perhaps not an ideal definition, but I have tried to make it comprehensive enough to include not only the ordinary mendicants but also (1) other persons, generally small children and women and old men, who do not go out and beg themselves, but are supported by their relatives who receive charity, (2) *purdah nashin* destitute women who do not beg but are maintained in their homes by charitable persons or institutions, (3) children who are brought up in orphanages and other similar institutions, and finally (4) persons who combine some other occupation, generally agriculture, with begging. Even now perhaps it is not comprehensive enough, but as I have not come across a better one I propose to take it, subject to correction, as sufficiently accurate to serve our present purpose. A few words of explanation are perhaps called for as to what I mean by "necessaries of life."

This term has been variously interpreted by different writers on economics. But when I use it in connection with India I mean it to include only such things as are absolutely necessary for a physically healthy life. Even these would differ in different countries having different climates. Thus in a cold country like England coal for heating and a substantial amount of warm clothing would be regarded essential for the maintenance of life. India is more a continent than a country, and the climate of its different parts varies considerably. On the whole however we may regard it as possessing a warm climate and may therefore, in a general estimate, dispense with a number of things which would be necessities in colder countries. Roughly we may take it that the necessities of life here would include enough cereal food, with two changes of ordinary cotton clothing—two *dhoties*, two *kurtas* and perhaps a cap or turban—for summer, and a warm suit of clothes for winter, some sort of a *kuchcha* house and a few miscellaneous things such as fuel for cooking, oil for lighting, some medicine in case of ordinary illness, and a few others.

Statistics of Pauperism

Having roughly defined a pauper, the next important thing to do is to find out if possible the exact number of persons who are to be classed as paupers. Here we meet with what appear to be almost insurmountable difficulties. Beyond the Census statistics there are practically no figures to guide us. Also even these statistics can only be of indirect use—this is especially true of the census figures for 1911—and can at best help us to make an intelligent guess. According to the census report of 1891 there were in that year altogether five and a quarter millions of persons who were to be classed as mendicants, including ordinary beggars and also persons who demand “alms

as a religious obligation on the part of the giver based on the sectarian or ascetic character of the applicant." Mr. J. A. Baines in his explanatory remarks to the occupation census says (chapter iv, page 96) "the distinction between the class that base their demand for support on religious considerations and those who claim the substantial pity of others on account of infirmity or simple poverty, is not accurately maintained in the census return in spite of all instructions that were issued on the point." It is however calculated that of the $5\frac{1}{4}$ millions 4,115,243, or nearly 78%, subsisted on alms while the rest belonged to the religious mendicant class.

In the census report of a decade later we read: "the last class to be mentioned is that of persons who do not work for their livelihood but live on their income from property other than land or on alms or on allowances of various kinds or at the state expense. Their number is five millions and more than four-fifths of them are ordinary beggars. It has already been mentioned, although religious mendicants are entered in a separate part of the scheme, the distinction between the two groups is hazy and uncertain. The two together include 4,914,000 persons or $6\frac{1}{2}$ per cent fewer than at the previous census. The decline is due in part to the comparatively heavy mortality amongst beggars during the famine years, but it is also partly attributable to the spread of education and the consequently weaker hold which the so-called ascetics have over the imagination of the people; it is much less easy than it was formerly for the members of the various begging fraternities to unloose the purse strings of the villagers.² "

Let us now turn to the latest census report, *viz.*, that of 1911. It will be noticed that figures for 1891 and 1901 are fairly definitely given, and we may take them

¹ Census of India, 1891. General Report by J. A. Baines, F. S. S.

² Census of India, Vol. I, Part I, Report, chapter VI, page 216.

as representing the truth—with of course the necessary reservations that must apply to all census figures, particularly to those relating to occupations. If there is any chance of error it must be on the side of a lower rather than a higher estimate. For no one who can by any means avoid it, would like to give his occupation as begging. Moreover it is possible that a substantial number of persons who, though not beggars, yet subsist on charity, as for example inmates of various orphanages, may not have been included at all, for generally speaking they are neither ordinary beggars nor religious mendicants. Unfortunately the census report of 1911, though it gives definite figures for religious mendicants, is not so definite as regards ordinary beggars. In the first place the system of classification of occupations is not the same as that adopted in 1901. Persons living principally on their income from property other than agricultural land, or on scholarships or pensions form a separate class in the census of 1911 and number 540,175. Others included in class H (Independent of Occupation) of the 1901 census are in this census classed separately as "Unproductive," and their number is 3,451,381. These are divided into two orders (a) Inmates of jails, asylums, and hospitals 132,610, and (b) beggars, vagrants, prostitutes 3,318,771. If we add together these two classes, we get figures corresponding to those contained in class H in the census of 1901, and if we calculate on the same basis, the number of beggars would appear to be more than $\frac{4}{5}$ ths of 3,991,556, or about 3,200,000. Add to these the number of religious mendicants, which is about 700,000, and we get the total number of paupers for 1911, which turns out to be about 3,900,000. We may take it that this figure, whilst it cannot be exactly correct, is sufficiently near the truth to serve our present purpose. It will be seen that there is again a decrease in this class, as compared with 1901,

and this is attributed to the more satisfactory economic condition of the people in 1911 "than ten years previously when the census followed hard on the heels of two disastrous famines." ¹ However, we are not just now concerned with the causes of decrease, and at any rate 3,900,000 is still a sufficiently large number to call for our most serious attention.

Present modes of charity

Normally there is no state-organized system of poor-relief in this country. It is in times of famine alone that the state interferes by opening up relief works of different classes, and by distributing gratuitous relief, either in the form of cash payments, or as cooked or uncooked food. In ordinary times private charity is left to provide for the country's paupers. The Indian Famine Commission of 1880 remarked that "India has a poor law, but it is unwritten." This is perhaps true—though not quite to the same extent now as in 1880—in so far as almsgiving is still regarded here by many as a sacred obligation.

We may perhaps distinguish between (a) casual out-door charity and (b) institutional charity. The large majority of our paupers are undoubtedly supported by casual out-door charity. They go about begging from place to place, picking up a pice here, a little grain there, some worn out clothing at a third place and so on. Of charitable institutions there is a large variety in India, including hospitals for the treatment of poor and destitute sick, orphanages for bringing up young children left destitute by the death of one or both of their parents, *maths* or homes for the poor, *chhatras* providing food for poor students, *sada-barat* institutions where grain is given every day to everybody who applies for it and where also summer and

¹ Census of India, 1911, Vol. I, Part I, Report, Chapter XII, page 426.

winter clothing is distributed at fixed times, some institutions of a semi-religious nature, such as the *Shah-i-Nujf* and *Husainabad* in Lucknow where charity is distributed on special occasions, and a number of others, including a few poor houses, of too varied a nature to be described here.¹ But the outstanding feature of the present position in regard to our charity is that it is highly indiscriminate.

Cost of pauperism

It is not possible to determine exactly the total annual cost of pauperism to us in India. Only a very rough calculation will be attempted here. There appear to be two ways of doing this. One is of course to calculate the total amount of annual charity. But this is obviously impossible as regards casual out-door charity; as regards institutions, some of them no doubt keep accounts, but others, chiefly those financed by individuals, do not. And at any rate institutional charity is a very small part of the total charity.

Another way of approaching the problem would be to calculate the average minimum cost of subsistence per head as regards food and clothing and then to multiply it by the number of paupers in existence. This would involve the assumption that every pauper is getting nothing more or less than the barest of subsistence in the form of enough cereal food and some absolutely necessary clothing. It is impossible to say how far this assumption is justified. For it is not uncommon to see many a *sadhu* enjoying luxuries such as fruits and sweets, and frequently one comes across large groups of them indulging in all sorts of intoxicants. On the other hand, however, there must be many who do not get even the barest necessities of life in the shape of food and clothing and are therefore losing vitality every day.

¹ The present writer proposes to develop this subject in a subsequent paper.

Assuming then that the large army of our paupers consume nothing more and nothing less than enough of cereal food and just enough of clothing to keep them going in normal health, let us try to calculate what they cost to the country.

There is an Institution in Lucknow called the "King's Poor House." It was founded in 1833 by King Nasir-uddin Haider, second King of Oudh, who deposited altogether a sum of Rs. 3,45,000 with the Government of the East India Company, "the interest thereof to be devoted to the relief of the poor, the blind, the lame, the maimed and infirm from old age of Lucknow." It is now managed as an endowed charity and is under the control of the General Charity Committee of Lucknow. The last annual report of this institution shows that during the year 1914-15, it maintained altogether 183 inmates, including men, women and children of different ages and religions. The total expenditure for the year came to Rs. 12,889, of which Rs. 7,269 was spent on diet and clothing alone, giving an average of Rs. 39-13-0 per head annually. I satisfied myself by personal enquiries that the inmates were receiving nothing more than the barest subsistence allowance, as indeed will be amply borne out by the following details about their clothing and dieting.

As regards clothing the arrangement is that each inmate is given two suits of clothes in summer and one warm suit and a blanket in winter. I found the material in each case to be very coarse and cheap. As regards diet the following table shows the amount of food and tobacco:—

**STATEMENT SHOWING THE SCALE OF DIET OF THE INMATES OF THE
KING'S POOR HOUSE, LUCKNOW.**

Name of article.	Full diet for adults of 13 or over in chhatanks.	Boys 8 to 13.	Boys 4 to 8.	Boys 2 to 4.	Below 2 and without mother.	Remarks.
Atta (wheat and gram mixed in equal proportion.)	10	8	6	4	Milk.	2 chhatanks extra to inmates who work.
Dal (cooked with some spices and very little ghee.)	2	1½	1	...	...	Once a month or on recommendation of doctor for a patient.
Vegetables (Cooked.)	6	4½	3	...	...	Twice or thrice a week.
Tobacco (chewing.)	1 tola	...	...	...	...	} Once a week to those who are really in the habit.
Smoking ...	5 tolas	...	...	...	...

Besides the above rations some milk and rice is allowed in special cases on the recommendation of the doctor.

It will appear from the above table that the dieting and clothing was not in any way above the minimum subsistence point. As a matter of fact it might even have been below, because when I visited the institution there was a general complaint amongst the inmates about the insufficiency of food. However we will take this figure—*viz.*, Rs. 39-13-0, or roughly Rs. 40, as representing under modern conditions the minimum amount required for the two chief necessities of life—food and clothing.

It may be objected that this estimate is based on the study of a single institution in a large town in one of the provinces of a vast country like India. The objec-

tion is no doubt valid, and as such precludes us from attaching any scientific precision to our estimate. But I am inclined to think that it will do as a rough working proposition especially as I find that it is more or less confirmed by personal experience in different parts of India, and by specific inquiries which I have made. Moreover, the instructions contained in the famine codes of the various provinces, based as they are on extensive experience in poor relief, though under abnormal conditions, seem to support this estimate. Thus the revised Famine Code for the United Provinces (1912) lays down that when grain is selling $8\frac{1}{2}$ seers a rupee, which is approximately the current price for wheat flour, daily relief wages and allowances should be as under:—

- (i) Workers, 9 pice a day (approximate average for the three grades of workers).
- (ii) Dependants—
 - (a) Adults, on the average $5\frac{1}{2}$ pice a day.
 - (b) Children, on the average nearly 3 pice a day.

This gives a roughly weighted average of about 6 pice per head per day, or nearly Rs. 34-3-0 annually. This is exclusive of any allowance for clothing, which can safely be assumed to be five rupees or thereabouts. It is hardly necessary to remark that the underlying idea in all famine relief is to save life, and as such the allowances are the minimum necessary for that purpose.

Well, then, what we come to is this. Assuming that the nearly four millions of paupers in India consume nothing but the minimum of food and clothing necessary for the maintenance of life they are yet responsible for a total annual expenditure of more than 15 crores of rupees! Imagine what it means for a poor country like India—this terrible waste on the consump-

tion of a class of people who in return for this consumption give practically nothing of any material importance to the country. It seems a cold-blooded calculation, for amongst the paupers there are not a few who fully deserve their share of consumption and perhaps even more, and there are at least some who render in return some sort of service, more or less of a quasi-religious nature, to society. But from the strictly economic point of view this sum, or at least a very large part of it represents nothing but waste.

This is only one side of the question, there are others which may be briefly noticed. Like other countries we may divide our paupers into three main classes (1) able-bodied adults, (2) aged and infirm and (3) children. The underlying principles in most of the countries having a well defined system of poor relief are to find suitable employment for the able-bodied idler, and make him work even if he is not willing to do so ; to maintain the aged and the infirm in special institutions, or by means of old age pensions ; and to provide the children with education and training for future employment. These principles are based both on moral and economic grounds. While it is but proper—morally speaking—that society should provide for the poor aged and the infirm, most of whom perhaps did useful work for society when they could, it is also necessary—economically speaking—that able-bodied persons should not be allowed to be a burden on society, and that children should be so brought up that instead of becoming a burden, they may grow up into useful self-supporting citizens, adding to the national wealth of the country. “The true secret of assisting the poor” says M'Culloch “is to make them agents in bettering their own condition, and to supply them, not with a temporary stimulus, but with a permanent energy” (*Political Economy*, p. 475).

Now exactly the reverse of this is happening in India. Our charity is proverbially indiscriminate. Thus while as a rule the able-bodied vagrant, who could work if he chose to or if he had to, goes merrily along getting more than enough not only of cereal food and clothing, but also of fruits, sweets and all sorts of intoxicants, the infirm destitute who is perhaps only forced to beg on account of his infirmity, often fails to secure for days at a stretch even a single morsel of food between his teeth. The reason is obvious. The able-bodied vagrant generally keeps his wits about him, knows a thousand tricks to unloose our purse strings and can constantly change the scene of his activities. At Allahabad he is a poor pilgrim who has lost his purse and only asks for return fare, at Cawnpore he is a stranger who has come in search of employment but has not found any, till his funds have been exhausted, and at a third place he sets up as a *Pahuncha hua baba ji* who has the gift of foretelling *satta*. On the other hand imagine the case of a poor lame old man. He cannot run from place to place, but must remain in the same locality for long intervals. What happens to him? "Oh! I gave him a pice only the other day" becomes the general attitude of the passer by. Not long ago I came across a man who had been practically starving for three days. I found that this man had been a good mechanic for twenty years doing useful work for society. Through an accident he had become unfit for work and was therefore thrown out of employment. His little savings were soon exhausted and then, much against his will, he had to go out and beg for dear life's sake. But people would not give him alms because—well, because he had a finer accent than the common run of beggars and the rumour went out that he belonged to the Criminal Investigation Department! I came across a similar case in Lucknow, but there the

man had the good fortune to be taken in at the King's Poor House and was therefore saved from starving.

As regards children it is satisfactory to note that things are improving a little, mainly through the efforts of some well-managed orphanages. It is still not uncommon, however, to find in every town small children with intelligent, promising faces, crying their life out for half a pice, or even a few *kauris*. Under present conditions these children can grow into nothing more than parasites on society, or, as is not rare, into ordinary thieves, sharpers, and pick-pockets.

Enquiry called for

It is pertinent to ask—"If India is to take her proper place in the scheme of competitive international industry, can she afford to let an appreciable part of her labour-force exist in complete idleness, and another by no means negligible part of her potential workers to grow up under circumstances which render them absolutely unfit for anything but preying on a well-meaning but foolish society?" It is also pertinent to ask—"If we are to be included in the list of civilized states, can we afford to leave our infirm destitutes, including in their ranks not a few veterans who devoted the best years of their lives to the service of the country, to the mercy of unorganized private charity?"

To my mind the answer to both these questions is decidedly in the negative. But that is not the chief point of this paper. What I want to emphasise here is the desirability, even the necessity, of an enquiry into the extent, causes, and other aspects of pauperism in India. And I venture to think that the considerations adduced above make it clear that such an enquiry is distinctly called for in the interest both of economy and of morality.

AGRICULTURAL BANKS

HENRY W. WOLFF

It is only quite recently that my attention has been called to the existence of Mr. D. E. Wacha's article in the first member of the *Indian Journal of Economics*, and only a few days back that I have been able to obtain a look at that article. I frankly confess that I have never experienced greater surprise than in taking note of Mr. Wacha's rather bold assertions. Is it possible? At the very time when Egyptian authorities are casting wistful looks at India, well armed as it is since 1904 with credit banks, the number and results of which have filled the co-operative world in Europe with admiration—and are considering what steps can be taken to acclimatize banks of the same order in their own country, as a substitute for the Agricultural Bank of Egypt, whose occupation as a bank for the small peasantry is practically gone since the passage of the "Five Feddan Statute" of 1913, and which found its borrowers such bad repayers that in 1910 it had 2,544 actions for recovery pending amongst about 40,000 borrowers, Mr. Wacha comes forward to recommend the formation of an imitation "Agricultural Bank of Egypt" for India!

It was in 1910, when a bill drafted under my instructions and brought in by Lord Shaftesbury for facilitating the formation of co-operative credit societies

in this country was before a Select Committee of the House of Lords, that I questioned Lord Cromer, the founder of the Agricultural Bank of Egypt, who was a member of that Committee, and who evinced unmistakeable interest in and sympathy with the object of my bill, why at the time he had had recourse to a capitalist, state-patronised institution rather than to co-operative banks, in the principle of which he quite evidently believed. I related to him that at the time I had been advised (by the late Lord Ilkeston) that I was about to be consulted with respect to the organisation of co-operative banks in Egypt. And accordingly I felt some disappointment at his selection of a different method. Lord Cromer's reply was that he had not at the time considered the fellaheen "ripe" for co-operation. That is an explanation which, however earnestly meant, was bound to sound a little odd to a co-operator and such as could scarcely hold good now, after co-operative banks in India have shown by the test of all tests in credit banking, *viz.*, by repayment made of loans, that they are equal to their task, whereas the Agricultural Bank of Egypt has confessedly failed in that very office.

In addition, I may add, there were thought to be legal difficulties in the way of the formation of co-operative societies, attempts to remove which have for some years taxed the legislative ingenuity of the polyglot Council severely. I have seen the draft bills prepared. In the end it was discovered to be doubtful if new legislation was required at all. As a makeshift the Government has, after the partial paralysis fallen upon the fellaheen business of the Agricultural Bank, as a very minute compensation for the loss sustained, authorised the formation of "syndicates" and "groups of borrowers", to which the Agricultural Bank is now empowered to lend. There has not yet been much

business. Evidently this is meant as a stepping stone to more perfect co-operation (on the consideration of which official minds continue busy), in the place of the exploded methods praised up a good many years too late by Mr. Wacha.

The Agricultural Bank has never done anything like the business that the Indian co-operative banks do. Its increase of share capital, which has excited Mr. Wacha's admiration, is no proof whatever of good banking for the purpose here kept in view. That share capital comes from the shareholders, who receive their dividends in virtue of other business that their bank carries on successfully. There is nothing to be said against the management of the Bank. The fault which has led to the stoppage of one part of its business—the part here under consideration—is the mistaken selection of means whereby to supply the fellaheen.

Speaking of the Agricultural Bank and its working, M. Pierre Arminjon, a professor at the Egyptian *Ecole de Droit*, who is now an old resident in Egypt and a specific student of its institutions, in his excellent *La Situation Economique et Financière de l' Egypte*, published in 1911, after reviewing briefly, but with evident appreciation, the results obtained by the Indian co-operative banks writes thus (pp. 644 ss.):—"Are not these quotations eloquent and do they not make one sigh for the day when each district, and even each village of any importance among ourselves will possess a similar society for the benefit of the fellaheen? . . . Meanwhile credit is dispensed to the small peasantry by the 'Agricultural Bank' . . . The idea suggesting its foundation was of the happiest . . . the peasantry have largely drawn upon its resources—now grown to over £E8,000,000. To what uses has this enormous capital been put by them? Only too often to one that was quite unproductive, to pay the expense of some merrymaking,

to buy some young fellow off his military service. Even when the loan has not been squandered in this fashion, it has often enough been wasted upon the purchase of land that did not pay the interest and sinking fund of the loan. During the last two years the Bank has been able to recover its loans only partially and with great difficulty." And he goes on to quote from the last Report of the Board of Directors then out:—"It is to be feared that in only too many cases the inability of the borrowers to meet their engagements arises from an unproductive employment of their loan." Professor Arminjon points out that repayment is not to be obtained, because the loan was badly employed, the lenders not being able to ascertain, and much less to control, the employment. "Well," says he, "that is precisely what the Managing Committee of a co-operative society *can* do, its members being bound in common liability and knowing, and being able to watch, one another."

Allow me to quote briefly from some of the Annual Reports of the Agricultural Bank of Egypt. In the Report for the year 1913 the Directors, after explaining the purport of the new law which deprives owners of properties of 5 feddans (about 5 acres) or less of the power to pledge their properties, say:—"This is a complete reversal of the policy of the Egyptian Government that led to the formation of the Bank, which was founded with the object of lending to the small cultivators on the security of their land." Under the new law "no such mortgage credit is to be allowed . . . It will be necessary to create a new system of agricultural credit." Of the 235,000 clients now on the books of the Bank the large majority are holders of 5 feddans or less. The law thus "reduces the business of the Bank by about two-thirds." The Report of this year accordingly shows a great decline in lending busi-

ness of the kind referred to, the number of agricultural loans having dwindled from 23,070 for £E1,239,615, at which it stood in the preceeding year, to only 351 for £E72,351. Recovery has all along, except quite in the beginning, been a difficult business for the reasons stated. In 1910 arrears figured at 18·9 *per cent* of the amounts due; in Upper Egypt alone even to 53·8 *per cent*. In 1914-15 arrears even reached the appalling figure of 74·4 *per cent* from which a reduced business (£E100,304 as compared with £E1,212,087) brought it down to 25·8 *per cent* in the following year. Well, 25·8 *per cent* is assuredly quite enough. In 1916-17 the amounts due for repayment, having stood at £E1,886,046 in 1908, had shrunk to £E816,691.

Mr. Wacha gibes at the modifications which have under practical testing proved desirable in the Act of 1904 and have been effected by the later Act of 1912. Is the Agricultural Bank of Egypt a good case to quote against this? We have heard that by the law of 1913 its whole purpose has been reversed. On the other hand there is absolutely nothing unusual or objectionable in the amendment of the Indian law of 1904. In that year the Viceroy and Council legislated on untried ground. As a matter of course the Act would require to be completed after testing by experience.

I do not suppose that there is any one who has seen more of co-operative banks of various kinds and in various countries than myself. And I can candidly say that the progress of the co-operative banking movement in India has surprised me by its rapidity and its general soundness and filled me with satisfaction. It does very great credit to those who have been charged with the administration of the Act. On new ground, to which the old, well-tried principle had somehow to be adapted, they have shown admirable resource and judgment. And I judge the movement to be safe in their keeping.

Certainly it is not likely to produce anything like the cataclysm of defaults in repayment which has marked the dealings of the Agricultural Bank of Egypt, the methods of which, so I would point out in conclusion, are not really applicable to India, as an inquiry instituted some years ago has made clear. The two systems of administration are too essentially different. There is, among other things, no "omdeh" in India, who forms such an essential feature in Egyptian credit business for small cultivators. Indians will do well to rest content with what they have and not throw away their tried gold for Brummagem brass.

THE REFORM CLUB
LONDON

September, 13th, 1916

CURRENT NOTES

The exchange with London has remained unusually favourable to India during the whole of the summer months and the early autumn. Many reasons are given for this by commercial men; but it would appear to be in reality mainly a part of the continued world-wide disturbance of financial relations which economists have predicted as the result of the enormous creation of credit by the belligerent countries in Europe. The use of new British Government loans by the subscribers to them as security for advances from banks, and the direct subscription of the banks themselves to the Government loans, has actually created some hundreds of millions of pounds sterling of "bankers' money". The effect of this was gradually to raise prices very considerably, and this upset the balance of foreign trade in the usual manner by making it less profitable for foreigners to buy from England and more profitable for Englishmen to buy from abroad. In addition to this, large purchases were made abroad, especially in America, on Government account. The balance of payments having thus been turned against Great Britain, the exchanges became very unfavourable and gold tended to flow out of the country and would have continued to do so if no suitable measures had been taken to maintain the reserve. The most important single measure of relief has been the raising of large loans for the British and French Governments in America. Exactly the same causes have been at work in France; and they have driven the exchanges much

more severely against France. In India we are experiencing the reciprocal effect of this outflow of money from the belligerent countries of Europe to the other countries of the world with which they trade. The balance of payments has thus turned strongly in favour of India, and it would seem likely—in the absence of any serious failure of harvests, to remain so for a considerable period—though, of course, the seasonal fluctuations will not be obliterated. The only factor tending to lower exchange which seems likely to grow is the remittance of funds from India to the United Kingdom for investment, mainly in British Government bonds. Unless this should grow considerably there is likely to be a considerable accumulation of free money in India, tending to raise prices of commodities here and to keep down the rates of interest on short loans. The rate of interest on long-date investments is, however, bound to go on rising in consequence of the continued rise of the rate of interest on government securities throughout the world. Consequently it would seem almost certain that there will be some further gradual depreciation of the price of Government paper.

We note with pleasure that Professor Geddes has returned to India, and is now completing his report upon the replanning of Lucknow. The importance of town-planning lies not only in thinning out and removing the congested areas of existing cities, but also in making provision beforehand with properly thought out plans for the inevitable growth of many Indian cities. With the expansion of trade and industry not only is population increasing in many centres, but a wealthy middle class is arising which appreciates life amid spacious surroundings. Hence it is necessary to plan years in advance for a great extension of suburbs.

REVIEWS OF BOOKS

RELATING TO INDIA

The World's Cotton Crops. By JOHN A. TODD, B.L., Professor of Economics, University College, Nottingham. London: A. & C. Black. 1915. pp. 460. Price 10s net.

In the absence of reliable information from many of the sources of supply of raw cotton, estimation of necessity enters largely into any attempt to arrive at a figure for the world's production of this commodity, and such figures as are to be found can only be of the nature of rough approximations. To a lesser degree is this true also of consumption. Such estimates are, however, available, notably those of the U.S.A. Census Bureau and of the International Federation of Master Cotton Spinners; and these indicate that, great as is the rate of increase in production, the increase in consumption is still greater. If this be true, the cotton trade has a critical time before it and the situation requires to be met with energy. This is the important aspect of the matter to the author, who has attempted, in popular form and freed from any large wealth of statistics, to show how the only remedy, an increased supply of raw cotton, is to be obtained, and to interest in the subject those connected with the trade to whom the question is a matter of personal concern. Since the whole trade is overgrown by a system of "futures", the total sales of which "are many times the size of the actual crop" the direct relation between consumption and production tends to be obscured and any attempt to sound a note of warning should be welcomed.

The sources of such increased supply are two. There are the countries which already supply the bulk of the world's cotton, and there are the new fields recently opened out and in process

of development. Among the former are India, Egypt and America and the economic conditions controlling the production of the crop in these countries are so divergent that each receives separate treatment. One of the objects of the book is to give grower and consumer respectively a knowledge of the destination, and of the source, of the world's cotton supply. It is only necessary to read of the manner in which the American grower and the consumer are kept apart by a host of middlemen, whose vested interests have assumed large proportions, to perceive how desirable such knowledge is. It is true the American grower is handicapped by the cost of labour which is heavy; the main trouble is, however, due to the power possessed by the middleman who plays on the financial weakness of the farmer whom it does not pay to grow a better class of cotton because he is compelled to sell at once and to accept whatever price the local buyer offers. A comparison with the conditions which prevail in Egypt is instructive. Here the cultivator is inarticulate, and his interests are guarded by a somewhat paternal Government; but the profitable nature of the crop is in large measure due to the system by which the crop is handled.

Any account of cotton production, in so far as it deals with the opening up of new areas, must, in the main, be a record of the work of the British Cotton Growing Association which has during the last fourteen years done so much in this direction. Of the difficulties which have had to be overcome, among the least is the selection of the localities most suited to cotton growing. The main difficulties in opening up new areas are economic: *e. g.* labour supply in the case of the Argentine, and facilities for export in the case of Nigeria and the many parts of Africa which have come under the sphere of the British Cotton Growing Association.

To us in India perhaps the least satisfactory portion of the book is the section dealing with the production of this country. The author was at the time of writing unfamiliar with India and the chapter is only too clearly a compendium based on reports, such as those of the Secretary of the International Federation, with which we are already acquainted. In this respect it is in striking contrast to the chapter on Egypt which bears the impress of a first hand knowledge; and we hope he will at a later date give us his views on the growth and handling of the Indian cotton crop as based on his

inquiries during his recent visit to India. The book is not without value, however, to those interested in the cotton problems in their Indian aspect. In this country too, we are struck by the great gulf fixed between consumer and producer and the consequent difficulties in the way of any change to the advantage of either. Familiarity with experiences of others and with the way in which these problems have been faced in other countries cannot but be beneficial. In this respect India is somewhat favourably situated. There is no doubt a system, and there are, no doubt, vested interests, but these have not reached the magnitude or complexity of, for example, the American system. The shortening of the road from producer to consumer should thus be relatively simple; intelligent anticipation, guided by the experiences of other countries, should lead to the building up of a sound system involving the minimum number of stages. Of especial interest in this direction are the co-operative attempts which have recently been made in America with the object of creating for the grower a position of greater independence.

While the lint is, and will remain, the primary consideration in cotton growing, the eagerness of the cultivator to grow it will depend on the total remuneration to be derived from the crop. In this respect seed production is not a negligible factor and the author has done well to emphasise this aspect. Only a small percentage of the seed produced is required for sowing, and the main bulk is available for use directly as fodder or for the production of oil and cake. The value of the seed is in large measure controlled by the economic uses to which the oil can be put. These are increasing daily; and in this direction India, where the extraction and, more especially, the refining, of cotton seed oil is in its infancy, has a long way to go. The considerable exports of cotton seed not only imply a loss to industry but a loss of cake, the manurial and feeding value of which India can ill spare.

The book was written under pre-war conditions, but the author has been able to add a chapter dealing with the effects of the war on cotton supply. As we are aware, the first effect of the war was an immediate and heavy fall in prices which led, in many countries, to a restriction of the acreage of 1915. If the author's contention be true, this fall was the result of a temporary check to the disposal of the 1914 crop, the

lack of adequate facilities for storage, and the weak financial position of the holders. Clearly the check to demand was temporary, and the situation was most opportune for building up a reserve of raw cotton. The action required was financial aid rather than the restrictions of sowing in 1915 which were advocated in many countries. We have not reached the end of the struggle, and the recovery which began in January 1915, five months after war broke out, has been steady; prices had, even by the time the 1915 crop became available, returned to the pre-war figure at which they still remain. The fact is significant. It is impossible to forecast the direction in which trade will develop after the present dislocation; but this recovery has taken place while large European markets are practically closed to the trade. It remains for the future to disclose how far these countries will recover their former position, and whether their portion of the cotton trade will pass to others. At the present moment we can only say that the conditions arising from the war lend confirmation to the author's views and emphasise the necessity for increasing the world's supply of raw cotton. As he points out, it is the East, with its enormous population, which is largely responsible for the increased consumption of cotton goods, while it is the East which is least affected by the world wide war. The check to consumption cannot, therefore, be great or of long duration; and, with the return of normal conditions, a large increase of demand is more than probable.

H. M. LEAKE

Co-operative Credit in Gwalior State. By ALAKH DHARI. Lucknow: Newul Kishore Press. 1915. pp. iii, 143.

This is a book containing a scheme for developing a co-operative movement in Gwalior State for the improvement of agriculture and the advancement of commerce and manufactures in the State. It is divided into four parts: (i) What is Co-operation? (ii) The Scheme of Organization; (iii) The Gwalior State Union of Co-operative Institutions; (iv) The Bank of Gwalior. The first part practically deals with the subject of co-operative credit in India. The treatment of the subject in this section of the book is very general in character, and has very little reference to the economic conditions of Gwalior State where the scheme is supposed to be introduced. All the eight chapters of this part treat of agricul-

tural finance, its organization, the loans—their object and character, the scope and economic benefit and educational value of the movement, and the supply of capital to the movement and control of its affairs. The last chapter is devoted to the qualifications and duties of the Inspector General of Co-operative Societies. In the first chapter of the first part the author considers three proposed remedies to ease the tightness and tension arising from a chronic insufficiency of capital: (i) Legislative manipulation of the rate of interest (ii) State loans and (iii) organization of credit on the lines of co-operation.

The first two remedies he feels cannot satisfactorily solve the whole problem of the chronic indebtedness. Its real solution in his mind lies in the organization of credit on the lines of co-operation. The history of England and European countries convinces him that the limitation of the rate of interest by means of legislative measures cannot attack the evil at its roots in India. To him the State loans have a good many dangers and evils which are unavoidable.

In Chapter III of the same part co-operative societies are divided into two classes (a) Rural (b) Urban. This was the original classification which was made in the Act of 1904. Before the passing of the next Act the workers of the movement in different provinces of British India had come to find that this classification of societies into rural and urban involved needless complications. Consequently in 1912, when the 1904 Act was revised, the statutory distinction between rural and urban societies was dropped, and radical differentiation was maintained only between societies with limited and unlimited liability.

In Chapter IV a suggestion is made for drawing a line of difference between productive and unproductive loans by varying the rates of interest charged in each case. Loans for unproductive purposes should bear a higher rate of interest. The suggestion is a very sound and apt one; and we think its adoption would tend to produce a very healthy effect on the economic condition of the agriculturists.

Part II. consists of the draft bill of the Gwalior State Co-operative Societies Act, and model bye-laws for district banks. The bill proposed differs very little from the Co-operative Societies' Act of British India. The main difference is that the supreme direction of the co-operative movement

in the Gwalior State under the proposed bill would be vested in a Board of Agriculture consisting of six members, at least three of whom would be officers of the Gwalior Durbar nominated by virtue of their office. It is proposed that these three, who would be known as ordinary members of the Board, be chosen as follows:—

- (i) The Finance Member.
- (ii) The Revenue Member.
- (iii) The Inspector General of Co-operative Societies.

The extra-ordinary members would be representative of the co-operative institutions and other official and non-official agricultural bodies in the Gwalior State, and would be returned by an electorate. We notice that in the draft bill there is no provision for the dissolution of societies.

The scheme proposed for the Gwalior State Union of Co-operative Institutions has very sound and useful objects. If the scheme were to be properly worked the co-operative movement should make steady and speedy progress. The most important objects of the scheme are to provide a regular and efficient system of supervision, audit and control for all the registered co-operative societies and district co-operative banks in the Gwalior State, and to train corps of inspectors, managers, accountants, and other responsible officers, required for running co-operative institutions in the State. There is no doubt that if this institution proved successful it would secure a very desirable measure of uniformity in the system of working, audit and control of the district co-operative banks, and their affiliated registered co-operative societies in the State. Such kind of training of the officers of the co-operative credit banks and societies as is proposed would secure efficient administration which would in itself be conducive to stability, and lead to expansion of business.

Part IV. gives the statement of reasons and objects of a proposed Bank of Gwalior with a scheme for its working. Besides doing ordinary banking business it aims at giving the financial assistance which so many industrial enterprises require in their initial stages. Part of the capital would be subscribed by the public and part by the State. For the industrial development of a country the existence of a large banking organization, such as the author outlines, is an urgent necessity.

—The book may serve as a useful guide to a man who has been

newly initiated to the co-operative movement. The schemes for establishing the Gwalior State Union of Co-operative institutions, and the Bank of Gwalior, should be read and marked well by those educated Indians who are interested in the organization of this movement in India.

Village Government in British India. By JOHN MATTHAI, with a Preface by Sidney Webb. London: T. Fisher Unwin. pp. xviii, 211. Price 4s. 6d. net.

India is predominantly a continent of villages: but it is a lamentable fact that most Indian reformers, while speaking of "Autonomy", "Self Government" and "Home Rule", almost totally neglect that part of Government which really concerns us most, because it is merely Local Government. They cry for local self-government, but they lack the requisite knowledge and sympathy to deal satisfactorily with the pressing problems of Local Government. They forget that the foundations of "Self Government" are to be laid in the reformed village government: to neglect rural reform, while advocating imperial reforms, is to begin at the wrong end.

As we believe that the weal of India is bound up with the weal of each rural unit in India, and as we believe that the interests of rural India would be furthered by Dr. Matthai's book, we welcome it in the hope that it may open the way for many further studies on Indian Local Government. The matter of the book is so well arranged and the style is so lucid that any one who begins the book will have to finish it.

Dr. Matthai at the outset declares that "the question that is sought to answer here is, not how a village in British India is administered, but rather in what parts of this administration and to what extent are the local officers and institutions of the village community utilised". He then proceeds carefully to describe what this village community has been, and probably often still is, and the subjects with which it deals.

In the introductory chapter he traces the origin of village communities in "the necessity for combination in order to satisfy certain elementary needs: besides, under ordered and centralised government, the King himself might originate and direct the formation of new village communities. Dr. Matthai points out that the formation of new village communities has proceeded in India even in our time. Remarkable instances are to be found in the canal colonies of the Punjab and in the

village settlements which have been carried on in recent years by the Church Missionary Society in parts of Bengal and the United Provinces.

The most characteristic feature of the government of a village community was the panchayat which might denote either a general meeting of the inhabitants or a select committee chosen from among them. This panchayat still exists in many villages, but its functions and authority are not what they were in days gone by. The village community itself has now lost much of its cohesion, "Many of the administrative duties which in more leisurely and less exacting days we left to be done by the village community have had necessarily to be taken up into the hands of the Central Government and its subordinate agencies." It is gratifying to note, however, that the spread of the co-operative movement is bringing in its train "the resuscitation of village government in a most attractive form."

In the second chapter we are told that the schoolmaster was an officer of the village community paid either by rent free lands or by assignments of grain out of the village harvest. The outstanding characteristics of the schools of the Hindu village community, we are told, were—(1) that they were democratic, and (2) that they were more secular than spiritual in their instruction and general character. The schoolmaster is still regarded as a valued member of the village who receives various forms of perquisites from the grateful rural folk. The whole chapter is full of most interesting details showing the connection that still survives between the village schoolmaster and the village community.

The next Chapter on "Poor Relief" is as interesting and illuminating as the former one on "Education". We are told how the village temple and the village almshouse were two regular institutions of charity in Hindu India, and how, besides these, "it was not uncommon for beggars to be assigned a definite portion of the harvest from the threshingfloor in the traditional manner of village payments for communal purposes". Among the surviving relics of the old communal fund which was raised by a village to meet its general expenses, including the feeding of its poor, perhaps the most important is the *malba* still found in parts of the Punjab and the U.P. At the present day the necessity for employing the ancient village machinery of India in the relief of distress is fully

recognized in the Famine Codes of the several Governments in India.

So far as the idea of public health was present in any form in the village community, it may be said to have been carried out by means possibly among others, of the physician, the midwife, the scavenger, and the priest and the astrologer. The arrangements made by the village community for the erection and maintenance of its public works, such as wells, tanks, channels, roads, and buildings, constitute another notable feature of village Local Government. These two subjects of sanitation and public works are dealt with exhaustively in the fourth and fifth chapters of the book. The last two chapters give us a most fascinating account of the rural police and rural administration of justice.

We have seldom come across such a book of rare merit: it evinces deep and wide study and a thorough understanding of every detail of a complicated subject. It is a thorough, scholarly performance which should be for a long time to come the standard work on the subject. It not only gives us an insight into the ancient system of village Government; it gives us also a complete account of the ways in which the surviving institutions of the old village community minister to the needs of our villages. While it depicts the by-gone glories of the much-admired village community, it also opens up before our eyes a vista of future rural development in India which may even surpass the achievements of the past.

PANCHANANDAS MUKHERJI

Journal of the Madras Economic Association: 1915. Published by the Association. pp. 132. Price Re. 1-8.

The current issue of this *Journal* is mainly devoted to a critical review of Mr. K. L. Datta's Report on Prices. The place of honour is given to a paper on "Prices in Madras" by Mr. S. Ranganathan, who tries to establish that (1) the growth of population, (2) the rise in the standard of living, (3) the course of production of cereals, *i.e.*, variations of rainfall, acreage, and outturn, and (4) the substitution of industrial crops for food crops—these causes are not sufficient to account for the rise of prices in Madras Presidency. If the facts and figures given in the paper are correct, they seem to lend support to Mr. Ranganathan's theory that those factors are

not sufficient to account for the wholesale rise in prices. He seems to be fairly justified in his conclusion that it is some external influence like the world prices that must have been largely instrumental in effecting those increases in prices. In the same issue is also published an elaborate paper on *Datta's Report on Prices* by Mr. R. Swaminatha Aiyar, B.A. After giving a fairly good summary of Mr. Datta's report, the writer proceeds to give his own views as to whether the rise in India is greater or less than in gold-using countries, what are the factors operating towards an increase in these countries, by what processes the Indian price level comes to be affected by these world factors and whether there are special causes operating in India alone. The view taken by Mr. Aiyar is that the rise in India cannot be held to be greater than in gold-using countries, that the higher rates of increase obtained by Mr. Datta for India are mainly due to his adopting gold index numbers for India and an unsuitable basic period, that a rise in prices in gold-using countries can permanently affect the Indian general price level only through the Indian currency, that there are no special causes operating in India alone, and that the recent upward movement in the Indian price level is almost wholly due to the rise in gold prices abroad.

Though we cannot fall in with all the views put forward by Mr. Aiyar in his elaborate paper, we should give him due credit for the great pains he has taken in putting his case against Mr. Datta's conclusions.

Essays on Indian Economics. BY MAHADEO GOVIND RANADE, C.I.E. Third Edition. Madras: G. A. Natesan & Co. 1916. pp. 300, vi. Price Rs. 2.

Ranade's *Essays* occupy the position of a classic in Indian Economics and we are therefore glad the publishers have brought out another edition. This new edition, however, does not differ in any material respect from the earlier editions. An index has been added and titles of two of the essays have been slightly changed—of one at least, we presume, as a result of the war! On the other hand the essay entitled "Twenty Years Review of Census Statistics" has been omitted, presumably because it was supposed to be out of date. The printing and general get-up of the book is, we are sorry to say, not quite as good as that of the last edi-

tion. Has the rise in the price of paper anything to do with this?

Agriculture In India. BY JAMES MACKENNA, M.A., I.C.S.
Calcutta: Superintendent of Government Printing, India.
1915. pp. 106. Price 4s. 4.

This booklet was written before the author took up the appointment of Agricultural Adviser to the Government of India. It is a brief survey of the history of agricultural progress in India. While the work is very much condensed—too much so to be a final word on the subject to date—yet the criticisms and conclusions will appeal to any-one familiar with the subject as just and fair.

The uncertainty of those in authority as to what to do for agriculture in India; the false starts; the constant change of policy; or lack of any policy of continuity of effort; the constant transfer of men engaged in research and investigation to the hurt of both; the muddle of mixing primary education with agricultural education; the difficulty of conveying the results of laboratory achievement to the ignorant, illiterate farmer, are all matters with which the book deals. Truly it is a formidable list of comparative failures and disappointments. It is well for India that the present Agricultural Adviser has been over the ground so carefully, and that he has faced the causes of failure and is not afraid to state them. He has also noted that even the mistakes of the early days have a value to us today in preventing us from repeating them. The author points to certain solid achievements in Indian agriculture, in the introduction of better crops and varieties; as, for instance, the work of Mr. Leake in cotton, Mr. Lefroy in entomology, Dr. Barber in breeding sugar cane resistant to the disease known as "Red Rot", Mr. and Mrs. Howard in wheat. If in one year the wheat area of India should be sown with the improved Pusa wheats, bred by the Howards, it would mean an increased profit of not less than Rs. 15 per acre, or over seven and a half crores a year. Such improvement in one single instance pays all the bills of all the mistakes of the years since there has been an Agricultural Department in India. When one compares the vastness of the field with the small budget and small staff of the Agricultural Department in India, it seems as though we were only playing at the improvement of Indian agriculture. There is one state in America with a population

of three millions that has a larger budget and more men engaged in Agricultural research, demonstration, and teaching than in the whole of India.

Therefore: If for so poor a policy, and so small a staff, so sadly overburdened with detail, such wonderful results are on record, as the record of Pusa wheat, what may we not expect when the greatest industry of India receives at the hands of the Government and of the people that due measure of careful, continuous scientific effort it deserves? The dawn of India's agricultural new day breaks full of promise.

SAM HIGGINBOTTOM

The Investor's India Year-Book; 1916. (Fourth Edition)
Compiled and published by Messrs Place, Siddon & Gough: Calcutta. 1916. pp. xv, 419. Price Rs. 10.

We welcome the appearance of another issue of this useful volume which ought to be in the hands of every economist in India as part of his statistical "raw material." It contains in a convenient form a summary of the reports and balance sheets of all the important public limited companies in India, whether they be railway, banking, plantation, or industrial concerns. The principal figures of the balance sheets, and the dividends, and highest and lowest quotations of the shares, are given for each of the past ten years: 1906 to 1915. The book is divided into the following sections dealing with the principal industries of India which are organised in public companies: Railways, Banks, Jute, Cotton, Coal and Tea. Each of these sections is prefaced by an excellent little introduction descriptive of the industry, especially from the investor's point of view, and giving very useful tables of the principal official statistics relating to the industry. There is also a larger miscellaneous section, which contains the metallurgical, oil, sugar, paper, and other companies. The gold and other metalliferous mining companies are not included however; which is to be regretted. We trust it may be possible to issue the Year-Book in even more complete form next year.

Patna College Chanakya Society, Sixth Annual Report: 1915-16.
Calcutta: Published by P. C. Dass, the Kuntaline Press. 1916. pp. 98.

We have already noticed in this Journal the useful work which this admirable society was doing in promoting practical

economic studies. We are glad to find from the sixth annual report of the Society that it has continued its activities with even greater energy and skill. The Report now before us contains amongst other things Reports of Enquiries into the industries of four important towns, and also a number of carefully collected family budgets. We are inclined to think that the industrial enquiries might with advantage have been fewer in number, but more detailed and comprehensive in their scope. We would recommend the adoption, when this work is continued, of definite enquiry forms setting forth the principal heads under which information is to be collected. This secures uniformity in the presentment of facts and ensures that no information of importance is wanting in the finished report through the investigator having forgotten to put the question at the right moment. As regards the family budgets we are glad to find that the Society is devoting increased attention to this important side of its activities. There are thirteen budgets in the present report compared with five in the last, and they show signs of much patient work. We would suggest the addition of a brief preface to each budget to indicate the general method of collection, and to show how far the figures given may be relied upon, and also how far they can be taken as representative of a particular class or locality. We notice that the budget in each case refers to a whole year, but apparently the collector's enquiry could only extend to a single day or at best to a few days. How did he then calculate, for instance, the annual expenditure on food? Did he take the food consumed daily during his enquiry as representing the average daily consumption, or did he calculate on some other basis? The same question may be asked respecting other heads of expenditure. It is hardly to be supposed that these families could have been induced to keep accurate accounts of their expenditure for a year, or even for a few months. As regards income, did the investigator depend solely on information supplied by the household or did he verify it by some independent means—*e.g.*, the Patwaris' book? Such a preface as we suggest would enable readers at a distance to judge more accurately of the value of each budget, and we commend it to the consideration of the newly appointed Budgets Sub-Committee of the Society, for it is a necessary part of every scientific enquiry to state the method of procedure and to estimate the degree of reliability of the

results and the extent, to which they are representative. Such estimate can, of course, be made better by the investigator himself than by most other people, provided he is experienced and cautious in judgement.

Even as they are, we notice some striking points in these budgets. We find for example that tobacco is a common item of expenditure of all the families, and is in most cases quite an important item of the budgets, being responsible for a larger share of the total expenditure than sugar, salt, ghee, or oil (for food) and in some cases than even fish and meat or vegetables. This would seem to indicate that even for the poorer classes of society tobacco is to be regarded as an important necessity, and not as a luxury as some people think. An interesting item in one of the budgets is "Bribes to Amla—Rs. 55" It is not the presence of this item that is at all surprising, it is rather its absence from the other budgets that surprises us. We have some experience of village life in Northern India, and we have hardly ever come across a villager from the daily labourer to the *lumbardar*, who does not have to pay little sums in bribes every year. From the village *chowkidar* upward all expect their *haq* (rightful due!) from him, on some pretence or another.

We are inclined to think that it would be useful to collect budgets from the same persons in successive years. It would be possible to gather some very interesting information if this were done on a sufficiently large scale. We could, for instance, find out the effect on the consumption of certain articles of a rise in their price—provided of course precautions were taken to eliminate as far as possible the influence of other causes that might be operating at the same time. A very interesting case in point would be that of salt. The duty on this commodity has recently been raised, and opinion is sharply divided as to the likely effects of such an increase of price. A comparative study of family budgets might disclose how far this increase has affected the consumption of salt—and possibly of other commodities—by the poorest classes.

In conclusion we may call attention to an apparent inconsistency in the first budget, where the pay of the man is said to be Rs. 60 a month, though his annual income under the heading salary is estimated at no more than Rs. 800. Is it a case of temporary employment, or is it an error? We also

note that in none of the budgets is there any mention of expenditure for the feeding, etc., of live-stock. Is this an omission, or are we to understand that grazing in the fields is supposed to be quite enough all the year round for the cattle in this part of Bihar?

We cannot close this review without remarking that great credit is due to Professor Horne, the President of the Society, for stimulating it to such excellent work. We wish the Society every success in its career, and trust that other economic clubs and societies will see their way to devote themselves to exact inquiries of a similar nature.

PADAM SAIN JAIN

GOVERNMENT PUBLICATIONS

List of Factories and other Large Industries in India (Second Issue). DEPARTMENT OF STATISTICS, INDIA. Calcutta: Supdt. of Govt. Printing. 1916. pp. iv, 47. Price Rs. 3-12, or 5s 9d.

The idea of issuing a catalogue of all the mills, factories and works in India showing the location and the number of persons employed by each was a happy thought. The first such list was issued three years ago, and related to the condition of industrial concerns in 1911. It was issued with moderate punctuality, and being the first such survey officially made, served a very useful purpose in indicating the extent of factory industries in India. The novelty and interest of its information made the reader who referred to it generous in forgiving the errors and imperfections of different sorts.

Many of the publications of the Department of Statistics have reached a high level of excellence, both as regards the interest and accuracy of their subject matter, and the method of presenting facts and the legitimate deductions therefrom to the public. Unfortunately this praise cannot be bestowed on more than a fraction of the reports which go out under the name of the Director of Statistics; and the impression gained by perusing some of them, exemplified by the publication under review, is that the compilation has been left to inexperienced and careless clerks working without supervision. Consequently the present issue of the *List of Factories and other Large Industries in India* is in most respects a failure. It is out of date, full of mis-statements and omissions, and badly printed.

Even the very title is bad English. The list of "large industries" in India can be put in two lines: agriculture; railway transport; forestry; coal and gold mining; cotton ginning, spinning and weaving; jute spinning and weaving; sugar and paper mills; tea, rubber, indigo and coffee plantations, to which should perhaps be added steel works and printing. But in the title of the work under review "large industries" means "large industrial establishments"—that is to say, it includes engineering works, mills and other undertakings of the kind where labour is organized on a large scale in a single place, but which would not usually be called a factory.

Unquestionably a word is wanted in the English language to denote briefly the genus *large industrial establishments* as just defined; and from the want of such word it has become a common fault of diction in India to extend the meaning of the word *industry* in the sense under criticism. None of the standard English dictionaries countenance this practice. Murray's Dictionary gives the following as the "prevalent senses" of the word *industry*: "4. Systematic work or labour; habitual employment in some useful work, now especially in the productive arts or manufactures, 5. a particular form or branch of productive labour; a trade or manufacture." None of Murray's examples nor any of the definitions or examples of Webster indicate that the word *industry* may be used to denote a single industrial establishment however large.

We said above that the publication is out of date and full of mis-statements. Although published in 1916 the information relates to 1913. The document may be of use to future economic historians as a sort of index of what were believed by certain clerks to be the facts; but it can be of little interest or service at the present time to the general public interested in the promotion of industries in India, or to the practical man or the economic investigator concerned with a particular industry. The *List* is divided into two parts dealing respectively with British India, and with the the Native States; and each of these parts falls into two, namely: (1) Factories owned by Government and local bodies, or the State Darbars; and (2) Factories owned and worked by companies and individuals. In each of these four parts come the names of the separate establishments grouped according to the principal industries, and a miscellaneous section. The

number of persons employed (average daily attendance in 1913) in each establishment is given. Establishments employing less than 50 persons are omitted altogether from the list as it does not purport to include any but large factories, and a line must be drawn somewhere. Yet this rule is not consistently adhered to; and it is rather curious to find that the most important lapse is the inclusion of the Simla Brewery (11 persons), the Dalhousie Brewery (21 persons), and a number of other small hill-station breweries.

We have not the information available thoroughly to check the information published in this report. It is not our business. But we think it misleading that the Canal Foundry and Workshop at Roorkee should be listed under Government factories without any note that it was sold to a private firm and handed over on the 1st June 1913, that is, during the first half of the year to which the statistics relate. It was with astonishment that we noticed that the Government Press at Naini Tal employed 927 persons in 1913, until we observed that the big Government Press in Allahabad apparently did not then exist—at least not to the knowledge of the Director of Statistics. Misprints are so numerous that our copy of the *List* looks like corrected proof from the press, and doubtless there are errors we cannot detect. Let us review two pages chosen entirely at random. On page 7 we have "The Calingapatam Jute Bailing Co. Ltd." for "...Baling Co. Ltd.", "Weylaudt..." for "Weylandt Carpet factory"; "New Egerts Woollen mills" for "New Egerton Woollen mills"; and "Sassoon..." for "Sassoon and Alliance Silk Mill". On page 18 under the heading *Printing Presses*, place *Calcutta*, we find "Golab Sing" for "Gulab Singh"; and the big presses of the *Statesman* and *Englishman* newspapers are entirely omitted. Under *Allahabad* we have "Liddles" for "Liddell's" and Ram Narain Lal's National Press is altogether omitted though it employed more than 50 men in 1913. Lower down the same column the "Tribune Press", Lahore, is printed as "Tribute Press". We venture to suggest that the staff of the Director of Statistics in Calcutta must be of a singularly incurious and retiring disposition (for statisticians) if it can publish incomplete information about its own city. Apart from typographical errors the printing is defective in style. Something evidently went wrong in the locking up of page 3; and we notice that ugly lines of dashes are used throughout in place of 5-em rules.

Our criticism of the document under review is not captious or purposeless. We know that the Director of Statistics has much work and many difficulties to contend with; but we are serious when we say that we think the progress of science is impeded rather than assisted by the issue of such a production under the *imprimatur* of the highest statistical officer of the Indian Empire. If such work is good enough for him and his office, the overworked officers of the Provinces and Native States may well say "Why should we worry ourselves about accuracy?" It is for the Director of Statistics for India to set the highest standard, which may be a source of inspiration and guidance for all statistical work in India. The Director in his brief preface foreshadows the issue of a volume of returns for 1915, which is "now under preparation." We hope he will succeed in making the third issue far superior to the second, and produce it earlier than the third year after the date of the returns. The Indian public is intensely interested in industries and wants just such a *List*; but it wants it accurate, complete and up-to-date.

Report of the Chief Inspector of Mines in India for the year ending 31st December, 1915. CALCUTTA: SUPERINTENDENT OF GOVERNMENT PRINTING. 1916. pp. 78.

The Report relates only to mines within the meaning of the Indian Mines Act (1901), which does not include quarries less than 20 feet deep, from which there is a considerable output of mineral products, even including coal. Complete statistics are to be found in the Annual and Quinquennial Reviews of Mineral Production in India which appear in the *Records of the Geological Survey*. From the industrial point of view, however, the statistics of mines to which the act applies are of great interest. The total number of persons employed thereat was—on the average throughout 1915—180,088, of which 118,017 worked underground and 62,071, on the surface. The total number employed in and about coal mines was 145,537, an increase of 7,686 over those employed in 1914. This is a rather smaller percentage increase than was recorded in the output of coal, which rose by nearly 4 per cent above the output of 1914 to 16,952,480 tons. Although the number of separate fatal accidents shows an increase over 1914, it is satisfactory to find that the number of deaths from accidents shows a decrease. No statistical

deduction can be drawn from this in a single year however, as the numbers, being small, are subject to fluctuation. One peculiar accident was the collapse of old workings, which caused the death of ten persons who were sleeping in their huts on the surface. It would seem desirable that inspectors should order the removal of all buildings situated above shallow workings except where the conditions justify the belief that they are absolutely safe.

The report contains as usual a great deal of interesting information in regard to the mining industry. The operations were much affected by the war reducing the demand for certain minerals and abnormally increasing the demand for others. There was a great decrease in the output of mica owing to the loss of the German market, and to the restrictions placed upon its export to various countries. The output of manganese ore decreased by 32 per cent; but in the latter part of the year a strong demand arose from the United Kingdom, France and America which, however, it was difficult to meet owing to shortage of tonnage. There was also a decrease in the output of gems; but considerable increases of outputs of gold, copper ore and of wolfram were recorded. It was only towards the end of the year that the wolfram industry was suddenly urged to an unusual pitch of activity by the demand for armament manufacture. It was necessary to import coolies from all possible sources of supply. Chinese were the main stand-by of the important mines in Burma; but Tamils, Telugus, Malays, Garhwalis, Burmans and aboriginal tribesmen from Chota Nagpur were also employed. The Chinaman is intelligent and works hard, but is very independent and disobedient. The next best workmen were the aboriginal tribesmen of Chota Nagpur who are accustomed to work in the mica or coal mines in their own country.

The report concludes as usual with general remarks on health and sanitation, a page or two on the progress and organization of mining education, and some account of the Mining and Geological Institute, the Association of Colliery Managers, and of the Board of Examiners for the manager's certificate. The proceedings of the Mining Boards are also reviewed, and the report closes with an account of the work of the Chief Inspector of Mines in connection with the Land Acquisition (Mines) Act, 1885. The appendixes include large-scale diagrams of the underground workings of the collieries in which accidents have taken place and an interesting chart showing death rates per thousand persons

employed (1) in coal mines, (2) in mines other than coal mines, for each group of coalfields. The statistical tables give the number of mines in each district and coalfield for each mineral, the total output and the numbers of persons employed according to sex and age, besides numerous other figures as to accidents, inspections, prosecutions and so forth.

The report gives an excellent idea of the great and growing importance of the mining industry in India. The work of the inspectors of mines is naturally constantly growing with the increasing output and depths of the mines; and the maintenance of the inspecting staff in the highest state of efficiency is one of the most laudable objects of Government expenditure.

Report on the Operations of the Currency Department for the year 1915-16. By H. F. HOWARD, Controller of Currency. Calcutta : Supt. of Government Printing. 1916. pp. 65.

This report is perhaps the last that will be issued by Mr. Howard as Controller of Currency as he is now officiating as Secretary in the Finance Department of the Government of India in place of Mr. Brunyate. The impression given by Mr. Howard's report is that the Acting Controller, Mr. M. S. Gubbay, when making his report for the present year will not find it an easy task to improve upon it. Mr. Howard's report deals, indeed, with all the various matters connected with the currency which the economist would adjudge as being likely to affect it and of sufficient importance to justify attention or any expense in collecting the statistics. We wish to say emphatically that this report and those of the two or three preceding years ought to be in the hands of all students of economics, in order to form a natural annual supplement to Mr. Keynes' admirable book on Indian Currency and Finance and to the Report of the Royal Commission of 1914 on the same subject. The reports of the Controller of Currency can be had for the small price of a few annas; and these, with the Annual Reports on the Administration of the Indian Mints (which cost a rupee each) give a complete survey of the production, maintenance and distribution of the Indian Currency.

The report under review commences with a survey of the balance of foreign trade during the year to which it relates. So far as figures are available for the various elements which

compose the balance of trade, they are set out in the following table which we reproduce with a little abbreviation from the report.

INDIA'S BALANCE OF TRADE
(In lakhs of Rupees)

Year	Gross exports of private merchandise	Gross imports of private merchandise	Net exports of private merchandise	IMPORTS OF FUNDS AND TREASURE				Balance net export transactions + net import transactions —
				Council Bills	Gold and silver bullion and coins (net)	Government securities (net)	Total of Imports of funds and treasure	
1909—10	1,87,88	1,17,06	70,82	41,73	31,05	—78	72,00	— 1,18
1910—11	2,09,88	1,29,35	80,53	39,43	32,59	2,43	74,45	+ 6,08
1911—12	2,27,84	1,38,57	89,27	40,17	43,05	1,06	84,28	+ 4,99
1912—13	2,46,09	1,61,00	85,09	38,83	44,15	53	83,51	+ 1,58
1913—14	2,48,88	1,83,25	65,63	46,60	29,56	1,12	77,28	— 11,65
1914—15	1,81,60	1,37,93	43,67	—2,27	18,46	35	16,54	+ 27,13
1915—16	1,97,22	1,31,34	65,88	23,71	4,44	90	29,05	+ 36,83

The disturbing effect of the war upon the balance of trade is most clearly seen. During the first four years included in the table the balance was almost exactly maintained. The small divergence—none of the years showing a difference of more than five per cent in the total balance—may be accounted for by the incompleteness of the available statistics and a tendency to errors which do not compensate one another, notably the tendency amongst merchants to declare the prices of imports too low at a time when prices are rising.

The balance was first disturbed by the boom of trade in 1913-14, in which vast quantities of piece goods and other merchandise were imported on credit, leaving a net balance of wealth (goods and money) imported. Apart from the war there would, in all probability, have been a net balance of wealth exported the next year; but the immediate effect of the war was to create a heavy net balance of payments outwards due to the withdrawal of much floating capital owned in England but employed in financing trade in India, and to the enforced reduction of exports and the fact that

imports of the pre-war months, obtained on credit, still had to be paid for.

In the year now under review these conditions developed further and the balance was increased even more remarkably in favour of India. This is to be accounted for mainly, we think, by the rise of prices in England and other countries affected by the war reducing the quantity of foreign goods demanded by India, whilst a special demand in certain commodities of Indian production needed by the belligerent countries suddenly arose upon an unprecedented scale.

The Controller explains that the figures include the exports of wheat on Government account having a value of 690 lakhs. While some of the exports in wheat were financed through the ordinary private channels, the Government itself supplied funds to the amount of 425 lakhs, and the drawings of Council Bills were to that extent reduced. The details of the balance of trade cannot of course be mentioned here. They will be found in the body of the report and also in a special appendix, dealing with India's balance of trade during the last few years.

In this appendix various other items in the balance of payments, particularly Government transactions, are examined, and the unexplained balance is reduced to about 24 crores for 1914-15 and 12 crores for 1915-16. It is stated (p. 26) that no account is taken of the payments made by the War Office for the expenses of the Indian Army in foreign service, apparently because no estimate can be formed of the monetary value of such services, and because in any case they cannot have much effect on the balance of trade on private account which is the subject of investigation. We venture upon two criticisms. In the first place, can there be such a thing as a "private trade" balance? Theoretically we can only expect a balance of all the transactions of the country both Government and private. In normal years the purchases of stores by Government are inconsiderable in comparison with the total trade; but with the large transactions involved in the war an unexplained balance in private trade would seem to indicate the existence of a considerable opposite balance on Government account. In the second place the "export of services" of the Indian Army might be expected to result in a net total balance temporarily in favor of India, because the Home Government pays for all extra army expenditure caused by

the war, and much of this is incurred in India in the special movements of troops, much telegraphing, and so forth, so that India as a whole may actually be making some profit out of this "export of services." A suggestion to this effect is got by comparing the £14,500,000 paid by the War Office in 1915-16 for services of the Indian Army with the "unexplained balance of private trade" amounting to £7,900,000 outwards, which leaves in the total balance of trade on unexplained balance *inwards* of £6,600,000. We state this merely as a suggestion, and in order to emphasize the importance of a more detailed investigation of the question of the total balance of trade.

Returning to the body of the Report we find that it proceeds to review the distribution of the Government balances in India and in England and the Paper Currency and Gold Standard Reserves. The Government deposits in the Presidency Banks are then detailed and the demand for money in India as reflected in the fluctuations of the total balance of the Presidency Banks is discussed and explained. The contraction of business which occurred in 1914 is next illustrated by a table giving the total figures of cheques cleared in the five clearing houses of India.

The following section deals with the demand for the various forms of currency during the year. It is a section full of most interesting information; but in the page or two describing the movement of funds from place to place in India, and even in the tables of the appendix, the economist fails to get quite that detailed account which he would like. Currency flows from various parts of India to other parts at different seasons of the year in regular tides in response to the demands made for financing the crops. The figures enable us to trace some of these movements but not to see them entirely, because for this purpose we should need the figures to be given by monthly totals instead of only by totals for each quarter of the year. If the additional expense of collating the figures monthly could be incurred, it would be a very great advantage to have them so stated.

A very interesting and important section is that dealing with the note circulation; and we are pleased to find that the average active circulation (notes in the hands of the public) has shown a marked advance after the slight set-back

experienced in 1914-15, so that in 1915-16 the record figure of 48 crores was reached. This is in response to the improved facilities for the issue and encashment of notes. Amongst the miscellaneous matters dealt with in the concluding section we note with satisfaction a reduction in the number of forged notes presented for payment, and the growing popularity of the one-anna nickel pieces. In the appendix are the usual detailed tables of note circulation, Treasury balances and Reserves, and so forth, amongst them being the official census of rupees as to their dates, which for so many years has been a striking feature of Indian currency statistics. Again we commend the report to the public, and especially to students of economics, for profitable reading.

REVIEWS OF BOOKS

ENGLISH AND AMERICAN

Early Economic conditions and the Development of Agriculture in Minnesota, BY EDWARD V. ROBINSON, PH.D.
(University of Minnesota Studies in Social Sciences:
No. 3.) Minneapolis: Published by the University
Librarian. 1915. pp. v, 306.

This monograph is a full and detailed study of the development of agriculture in the State of Minnesota, which occupies a central position in the continent of North America. It is a fascinatingly interesting sociological and geographico-economic study—a summary account of the westward flow of population, its occupations, and the extension of the mechanical devices of civilization. The opening chapter deals with the physical features and climate of the area—its geology, physiography of the land surface, forests, cultivable areas, temperature, rainfall and life-zones. The second chapter recounts the early explorations of this region, describes how the natural waterways were used, and the construction of military roads which preceded the railroads by only a few years. The first great era of railroad building was from 1862 to 1873; but, prior to that, as shown in Chapter III, the pioneer settlers had opened up and extensively cultivated the south-eastern quarter of the State. The relative importance of the different crops changed considerably with the introduction of railroads. Whereas in 1859 the four staple crops: wheat, oats, maize, and potatoes were nearly equal (by bulk in bushels), all other crops being insignificant by comparison, the author finds that during the period 1860-1880 (Chapter IV), there was a very marked specialization in wheat cultivation, which occupied 53.4 per cent of the cultivated area in 1860 and increased with oscillations to 66.2 per cent of the cultivated area in 1873. During the next twenty years (Chapter V) the tendency was towards diversified farming, and this period is examined in very great detail. Finally Chapter VI deals with the recent tendencies in agriculture.

It is impossible in a brief review to do justice to this important monograph, which may be taken as a worthy example for similar work in other countries. The author

has made splendid use of all the available agricultural and census statistics; and the matter is illustrated with a wealth of special maps and price diagrams which is, we think, unprecedented in any economic publication, even of so descriptive a character. It is almost a geographical as well as an economic treatise; and the clearness and careful execution of the plans and diagrams renders the study of the monograph a real pleasure. Universities and economic societies in India should have it in their libraries, and they may obtain it in exchange for their own publications.

Administration and Partisan Politics. Being the Annals of the American Academy of Political and Social Science; Vol. lxiv, March, 1916.

This issue is divided into three parts. The first part deals with the cost of partisan politics in the work of Government in six different articles contributed by leading men, who point out the evils of "invisible government," and how direct election, as a cure of those evils, has insured neither popular control nor efficiency of State administration. They do not advocate the dissociation of parties from politics, but, at the same time they do not like to see political parties exalted at the expense of the public weal.

The second part describes the movements to free public administration from partisan politics. Throughout the movements to free Government from "politics" one increasing purpose runs: to segregate and clarify issues, and to bring about a more conspicuous responsibility. It is proposed to extend the civil service to postmasters of all classes, and to increase the responsibility and efficiency in administration by applying sound principles of employment management. The third and last part of the volume before us deals with "public policies in a responsible government". It is pointed out that the short ballot is essential to an effective democracy, that legislators should be made responsible for their proper work that the judiciary should have no concern with administration and politics, that there should be a system of training for citizenship in schools, that the administration should be run by capable and trained officers and that municipal organization should be based on sounder principles. From the writings of thoughtful Americans it seems as though a new democracy is arising on American soil with new ideals of purity, efficiency and justice in public administration.

A Study of Industrial Fluctuation. By DENNIS H. ROBERTSON, M.A., Fellow of Trinity College, Cambridge. London: P. S. King & Co., Ltd. 1915. pp. xiii, 285.

There is no more interesting, no more difficult, and at the same time no more important subject of study in the whole science of economics than the cyclical fluctuations of trade which vary in their period usually from seven to ten or eleven years in length. Under certain conditions they produce commercial panics or financial crises resulting in widespread failure and ruin. The researches of numerous workers have clearly established the connection between these crises and the phenomena of fluctuations of foreign trade, currency circulation, prices of commodities, rate of interest, output of factories and mines, and other commercial statistics which indicate the state of economic activity. In recent years many authors have sought to correlate these trade and industrial fluctuations with the variations of harvests as shown by crop statistics; and some degree of causal connection has undoubtedly been established. A further step has been taken by giving scientific precision to our knowledge of the dependence of crops upon rainfall¹; and the present reviewer has followed up the idea of the late Professor W. Stanley Jevons of the connection of the periodicity of crises with that of sunspots, by tracing out the connection of harvests with a short weather cycle, about 3½ years in length, upon which appears to be superimposed a longer period of from 10 to 11 years which corresponds with the sunspot period.² This suggests that certain visible solar phenomena and the terrestrial weather cycles are both the result of the same prime cause, the variations of weather being due to a cyclical alternation of the intensity of radiation received from the sun. Some twenty or thirty works have been published in England, America and other countries in recent years dealing with trade fluctuations or business cycles, or special aspects of them. Some of these treatises are very voluminous and investigate in great detail the fluctuations exhibited by commercial statistics. In many of these works are to be found elaborate theories of the psychological and economic causes supposed to be responsible for causing periods of speculation followed by a collapse of prices and stagnation

¹ Cf. H. L. Moore, *Economic Cycles: Their Law and Cause*, 1914; Chap. iii; F. J. Atkinson, *Silver Prices in India*, 1897, pp. 95 et seq.; W. N. Shaw, in Proc. Roy. Soc. (1906).

² *Sun's Heat and Trade Activity* (P. S. King).

of business. No attempt has been made, however, to investigate further the hypothesis of a cosmic influence acting through the weather and the crops, being, so to speak, the prime mover in producing industrial fluctuations and especially in giving them a periodic character.

There is consequently no agreement amongst authorities as to the cause of cyclical trade fluctuations. It is possible that many authors who have given different explanations are each right to a certain extent, though each has failed to give a complete explanation of the phenomena. It is into a subject of such enormous complexity—both in questions of theory and of statistics—and full of most chaotic controversies, that Mr. D. H. Robertson has been bold enough to plunge. He has done so, in our opinion, with so much success that his book must be regarded as being, for the present, the leading authority on the subject. Mr. Robertson displays a knowledge of economic theory of a high order; and he combines with it a considerable skill in handling statistics. He has pursued the enquiry with considerable patience and industry and has given a large number of references to authorities and sources of information, besides a useful bibliography in the appendix. He writes with a pleasing style which is generally clear: though it tends to become pedantic in places.

The study of industrial fluctuations is the last stage in the process of reconciling pure economic theory with the actual facts of the commercial world as continually observed and recorded. After studying the economics of man in isolation, the logical development of theory leads to the study of exchange and the phenomena of markets. Consumption, production and distribution are next studied with the assumption of statical conditions as regards the factors in equilibrium. The next step which brings theory much nearer to a complete explanation of the economic facts of our civilization is to take account of the biological elements—the tendency to growth of population and all other secular changes of growth or decay, such as accumulation of knowledge and property, or the exhaustion of coal or disappearance of handicrafts. The final stage is the endeavor to account for the fact that all these slow or rapid changes of growth or decay do not take place at a uniform rate but by sudden spurts lasting two or three years at a time alternating with similar periods of slower progress or even of retrogression. Alternations of booms and depres-

sions are to be found in the current history of all industries. The attempt may be made, as it often has been made, to explain them separately in each important trade. Further observation, however, reveals the well known fact that booms and depressions, or again rises and falls of prices, occur practically simultaneously in all the industries and in the foreign trade of all countries of the world. Thus studies of industrial fluctuations confined to single trades can never complete the theoretical interpretation of economic activities. Economists are forced to the conclusion that their purview must cover, not only the physical laws characteristic of the earth's surface and its raw materials, the psychology of man, and the biology of the body social, but also extend to the cosmic laws of the atmosphere and solar system.

All this is recognized by Mr. Robertson, if nowhere stated quite so explicitly. After a preliminary chapter, he divides his book into two parts: the first dealing with the fluctuations of individual trades, and the second with the "fluctuations of general trade." In the first part he takes first the phenomena of supply and then those of demand. In the treatment of supply he gives proper emphasis to the period of *gestation*—the time needed to bring new capital instruments in any trade into producing action—and to the imperfect divisibility and intractability of the instrument, *i.e.* of the factory, mine, or other form of fixed capital. In the discussion of demand he treats with judgment the important subjects of crop volumes and crop values. In the first two Chapters of Part II, which deal with the revival and with the crisis and subsequent depression, the effects of the world's harvests and of agricultural shortage are discussed at length and are given their due recognition in the chain of causation.

There is much more we could say in praise of this book, and there are a few things which we could say in criticism, though they would relate comparatively speaking to details of the working out of theoretical arguments and their presentation. Adequately to examine these, and to express our views on the interesting conclusions and proposals for limitation of fluctuations contained in the author's final chapters would lead us almost into writing a volume on the subject. Suffice it to say that every economist who wishes to keep abreast of the advance of his science must have this book at hand and give it serious study.

H. S. JEVONS

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THE ECONOMICS OF A DECCAN VILLAGE

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I

Among the questions which those who are interested in the future of India must most frequently ask themselves are—How far is the condition of the rural population improving or the reverse? and—How far are changing economic conditions in India affecting rural life both in its economic and agricultural aspects? It has hence long been my ambition to try and ascertain by careful and close inquiry in a comparatively few rural centres in the Deccan what is the actual present condition of the people. I have wished to do so because I believe that it is only by such intense inquiry in a comparatively limited number of centres that these questions can receive an adequate answer. The publication of Mr. Keatinge's book on "Rural Economy in

the Bombay Deccan" very markedly increased my wish to conduct such an intensive investigation as I have mentioned. In that book he drew, largely from his own personal experience in Deccan villages and largely from Government and other records, a considerable number of conclusions with regard to the condition and tendencies of rural life in this part of India. The reasons which he gave for these conclusions seemed insufficient, but the conclusions themselves seemed rather of a nature to stimulate further inquiries than to make one feel they could be accepted as they stand.

This being the case I undertook with the help of a number of my friends and assistants to conduct a survey of a single Deccan village, and wish to lay before the readers of this journal a few of the more obvious results of my inquiries. Space will not allow of more than this, but those results which I can present will, I think, be found to be at least of a character to stimulate discussion and to add considerably to the data existing for an understanding of the condition of the rural population in this part of peninsular India.

Just one more point by way of introduction. The village which I shall proceed to describe represents one type only of the villages in the Deccan. It lies distinctly in the zone of fairly assured rainfall, and it is also a village in which practically no irrigation takes place. In order to get a full picture of village life even in the western Deccan two other types of village would have to be considered, namely, that in which a village possesses a large number of wells for irrigation, and in which the prosperity or otherwise of the village depends on the existence of these wells; and that type of village which is a creation of irrigation canals, in which cultivation is rich with an intensity such as is hardly to be seen in any other large area in India. The eastern Deccan again, with its different distribu-

tion of rainfall, the extreme uncertainty of its moisture, and the depth and heaviness of its soil, represents a different series of conditions which would need again a further and distinct investigation.

II

The village with which I am to deal represents the dry cultivation of the western Deccan. It is named Pimpla Soudagar and lies nine miles from Poona to the west, and about two miles to the south of the Bombay Road, separated from it, however, by the river Pawana. It was chosen for this inquiry for three reasons: (1) It was sufficiently near to Poona to make it possible for us to investigate it; (2) It was considered to be sufficiently far from Poona to prevent the influence of an adjoining city being paramount in its life, and (3) It was sufficiently small to make it possible for an outsider to get a clear idea of the village as a whole. The area of the village amounts to one thousand and sixty-five acres. All is held under the ordinary *ryotwari* tenure of the Deccan. *Inam* rights, that is to say, the right of the whole or part of the land assessment, of two hundred and eleven acres are held by private *inamdars*, while there is a charge to another *inamdar* against the revenue of the whole village dating from the commencement of British rule in the Deccan.

This village lies on the banks of the Pawana river and is typical of many hundreds. The bank of the river is rocky and on a rocky ledge, parallel with the river, lies the village site. The outer boundaries of the village on every side but one are also high, rocky and uncultivable or with very shallow and poor soil. Between the comparatively rocky river bank and the high land round the village lies a hollow filled up during many centuries with the black soil characteristic

of the trap region of Western India. The depth of this soil depends on the level of the rock below the surface. Where the rock is far below, there the soil is deep; where it approaches the surface there the soil is shallow. Below the soil there is either hard rock or the *murum* which represents disintegrated rock and which is of very little use from an agricultural point of view. The depth of the black soil, however, is the feature which determines the agricultural character of any particular field in the village. Round the edge of the village area, as I have already said, the soils are shallow. Sometimes there is no black soil at all, and the material which exists for the growth of plants is the disintegrated trap rock or *murum* which represents one of the driest and most 'hungry' soils I have ever seen. The main part of the village is better. The soil, though not rich, is retentive and capable under ordinary conditions of rain of giving fair returns with good cultivation. The rainfall amounts to between thirty and thirty-five inches per annum.

As I have already said, the village owes its existence to the rocky ledge on the banks of the river retaining the black fertile soil in the hollow behind, which has been deposited there by long-continued washing from the surrounding hills. As the hills are near, the soil is not—for black cotton soil—very heavy, for heaviness in soil in the trap area depends largely if not entirely on the distance to which it has been washed by water. The village derives its supply of drinking water from a long reach of the river which lies in face of it. As in so many other cases, the river current almost entirely fails after January in each year, but a ridge of rocks at the extreme east of the village causes the formation of a long pool which retains water throughout the year. The river being

almost entirely composed of surface water is very soft, and if it escapes contamination higher up its course, forms an admirable drinking supply. Beyond this, the village contains twelve wells all of them with water which partially or entirely fails at least in April or May in each year. This being the case, the village is essentially one which depends on dry cultivation. Two or three of the wells are occasionally used for irrigated crops, and formerly even sugar cane was grown over a few acres every year. This has tended to disappear in recent years, though in the present season (induced perhaps by the present very high price of *gur*) several acres are again under the sugar cane crop.

The wells depend, as do most in the Deccan, on fissure water. They are a most doubtful, and a very expensive speculation. If a well taps a fissure of perennial water, the fortune of the man who digs it may be made. If the digging either reaches no water (and at least forty per cent of the wells sunk in the Deccan are failures), or only reaches water running for a few months in the year, it is a failure which usually ruins the man who undertakes it. Of the twelve wells in Pimpla Soudagar one only has a fairly constant supply, five have a supply which sinks to half its quantity in the hot weather, in four other cases the supply sinks to less than a quarter, while the last practically dries up each year in March, April and May. Such a condition has not tempted the people to experiment further, and one cannot blame them. Five hundred rupees invested in a well, unless there is a greater probability of success than has hitherto been reached with the available appliances, would be nothing but a gamble.

As in all Deccan villages, the cutting up of the land by rush of surface water has been the cause of the ruin of a considerable area of the village land.

The damage is obvious, and some at any rate of the land near the river round about where the *nalas* break through the rocky ridge which borders it, is so badly cut up as to be spoilt. More important however is the constant wash of surface soil in small quantity from the fields—against which, except in a few places where irrigation has been or is carried out, very few precautions are taken. The limitation of embankment to such sites and the almost complete abandonment of the rest of the land to surface wash is, I fear, characteristic of very large areas in Deccan villages similarly situated.

I have already stated that the village consists of 1065 acres. Of this land 1020 acres is held by various holders. The balance consists of roads, *nalas* and the village site. The division of the village land can perhaps best be shown up by a table.

Total area of village	...	1065	acres
Area kept for public purposes	...	44	acres
Area held by private owners	...	1021	acres
Area held for cultivation	...	1006	acres
Area fallow in 1914	...	91	acres

This table at once indicates the characteristics of cultivation in a Deccan village. Its features are first the very large area held for cultivation and hence assessed which is not actually cultivated in any year and which only bears a very thin crop of grass and is used as inferior grazing. The existence of a large fallow area is very striking and shows how modern methods of maintaining the fertility of land have hardly reached the outlying unirrigated villages in the Deccan.

III

As in all *ryotwari* tracts the revenue assessment of all the land goes direct to Government unless a

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definite grant to some one else, that is to say to an *inamdar*, has been made. The history of the growth of such grants in the later Maratha period is very interesting, and in the present case we have been able to trace it from 1699 to the present day. At various periods these *inam* grants were as follows:—

	1699	1770	1779 to 1819
	acres	acres	acres
(1) For temples ...	84	84	84
(2) For village <i>patel</i> ...	42	42	42
(3) For village <i>mahars</i> ...	28	28	28
(4) For individual <i>inamdars</i>	84	112	112
(5) For village <i>Kulkarni</i> ...	...	...	12

The origin of the first or temple *inam*, devoted to a wellknown temple in the adjoining village of Chinchwad is a very old one and we have not got any record of it. Of the others only one now remains in its original form namely that for the *mahars*. The total area of the *inams* has been reduced and only 211 acres now remain under this privileged tenure. Only 35 per cent of the ordinary assessment is payable by the holders of these lands.

In 1819 a new factor was introduced in the grant to one man, who had assisted in the British occupation, of the whole government revenue of the village for his own life and his sons', and then of half of it to his heirs for ever. The original grantees wasted their substance and by mortgage or otherwise the actual amount received had sunk from Rs. 910 to Rs. 211 by 1840. In 1856 the grant was converted into a definite money payment, based on the revenue in 1817-18, and this is now distributed among six members of the family. This *inamdar* is thus in no sense a

landlord—he is merely a person who has a definite money charge against the revenue of the village.

IV

The history of the land revenue of this village is very interesting; and previous to the coming of the British it affords a very striking record of the disturbed state of the country. The actual amount of revenue obtained and the expenses at different dates are shown as follows:—

	1770	1791	1797	1811	1829
	Rs.	Rs.	Rs.	Rs.	Rs.
Assessed revenue collected	801	792	1087	1158	889
Expenses	74	202	697	310	186
Net Revenue	727	590	390	848	703

Nothing could illustrate in a more striking manner the increase of leakage of revenue during the later periods of the Maratha rule. The revenue assessed and collected was higher by 45 per cent, but the amount actually received by the Government was exceedingly variable. New local officers like the *deshmukhs* (of whom there were two) and *deshpandes* made a charge on the village revenue, the village officers took much more than their *inam*, the extra expenses charged increased enormously. In one year (1791) which I take as an example, the expenses charged against the Government in the records include *solatia* to Government officers, festivities at the time of visits of officers and others, money spent on wandering groups of *gosavis* and large amounts for which details are not even given. As far as one can judge, it would appear as if at least about Rs. 85 from the Government revenue was paid in moneys to greedy local officials of one sort or another beyond fees which they seem to have been entitled to charge. The extreme of this leakage is however seen in 1797 when out of a revenue

of Rs. 1,087 only Rs. 390 reached the treasury. We do not know how much the people themselves were compelled to pay, but the time was that of the passage of the marauding armies of Shinde and Holkar. These leaders charged the village revenue with Rs. 179, and demanded a feast to their officers costing Rs. 14. Beyond this, presents to the messengers who brought the news of the Peshwa's court were thought to be legitimate charges against the Government revenue. Finally we get a glimpse of the unsettled condition of the country side in the fact of money paid to a village servant who did not get his usual fees on account of a riot.

In 1811-12 conditions were a little better but the local leakage of revenue continued on an even greater scale than before. The assessment was higher, and the amount collected higher, and reached a maximum in 1817-18 when Rs. 1,226 were collected, an amount which fell to Rs. 889 ten years after British rule was established. After this we enter the modern period, the time of regular settlements and regular revenue returns. The actual figures for three dates are as follows:—

	Rs.
1849-50	1,115
1886-87	1,128
1914-15	1,660

We have thus a large increase in the land revenue during the later Maratha period, some reduction in the early British period, followed by a large rise. The gross amount now obtained for Government from the village is almost exactly double what was obtained in 1770. This does not mean that the assessment on the land is double, as some of the land whose revenue had been alienated at that time has since

been resumed and its value now flows into the regular treasury.

V

In no matter is the study of this village more interesting than in connection with the holdings. When we first find detailed records in 1770, there were only 24 holders of land, including the five inamdars. The number at various dates since that time has been as follows:—

	<i>Number of land-holders</i>	<i>Average size of holding</i> Acres
1771	24	44
1791	41	25
1797	34	31
1811	54	19
1817	48	22
1829	58	18
1840	60 ¹	17½
1914	156	7

During the Maratha rule the holdings were large and the holders few, and moreover, it almost appears as if the number declined in periods of disturbance and rose in periods of peace and good government. The same results have followed in the long British period, and now we are found with a reduction in the size of holdings which would have been almost inconceivable a hundred years ago. It is evident in fact that in the last sixty or seventy years the character of the holdings has altogether changed, until now the average holding is below what is neces-

¹ Previous to 1856 I have counted the inams as being in possession of single holders. We cannot get certain data about this but it makes the figures before that date and after not quite comparable.

sary to maintain a cultivator's family. The number of holdings of various sizes now is as follows:—

<i>Size of holdings</i>	<i>Number of such holdings</i>
More than 40 acres	1
30 to 40 acres	1
20 to 30 acres	9
10 to 20 acres	18
5 to 10 acres	34
1 to 5 acres	71
Below 1 acre	22

The excessive subdivision which has progressively increased during British rule is recognised as a very great evil. Mr. Keatinge has suggested that an economic holding of good dry land such as most of this village consists of, in the western Deccan and with an Indian *raiya*'s standard of life would be about ten to fifteen acres. Even therefore if each holding were held in one block, it is evident what a large proportion of them (81 per cent) are below this size. It means, therefore, that by far the larger number of holdings cannot under the most favourable circumstances, maintain their owners, but that they must rely on other occupations, either at home or away to support their families, or that they must sublet their holdings.

The conditions are worse even than this makes out because the land held is not only small in area but is divided into a large number of fragments. That is to say that when under Hindu law landed property must be divided among the members of a family, the division is made by partitioning each piece of land, and not by the various claimants taking the whole of various sections of it. The evil result is very apparent in the village now under consideration.

In fact out of 156 landholders in the village only 28 hold all their property in a single survey number and in a single piece. The land is split up into no less than 711 separate plots and the largest proportion of the plots are under one acre in size. The following table shows the extreme condition to which the subdivision of lands has gone:—

<i>Size of plots</i>		<i>Number of plots of this size</i>
Over 20 acres	...	1
From 10 to 20 acres	...	7
From 5 to 10 acres	...	21
From 1 to 5 acres	...	266
From $\frac{1}{2}$ to 1 acre	...	211
Under $\frac{1}{2}$ acre	...	212

So far nothing has been done by the public authorities to stop this excessive fragmentation of land which is an evil of far greater moment than that merely resulting from the subdivision of holdings themselves. It has in fact all the evil of very small holdings in that it prevents the use of machinery and labour saving methods, and on the other hand it has all the evils of large holdings in that it hinders the adoption of really intensive cultivation by any holder, which is the great advantage of small holdings. I do not want to discuss here the methods by which public authorities might attempt a way out of what is an obvious difficulty,*but the matter has been very seriously tackled in two or three countries of Europe and also in Japan where a similar condition had grown up.

At first sight it would appear as if the people were settling this by natural methods, namely, by the abandonment of village life (though not of village land) by an increasing number of people, and by subletting

a large proportion of the land. The extent to which the landholders have left the village without giving up ownership is shown by the fact that only 64 per cent of the registered landholders cultivate their holdings. The remainder have become labourers either in the villages or away from it, and though they still hold their land they have ceased being cultivators in the ordinary sense. The land is thus sublet, and the extent to which this is taking place is evident, for our investigations show only 109 actual cultivators in 1915 as against 156 landholders, or 140 if joint holdings really held by one of the joint holders are excluded. We have then the introduction of cultivators who are not landholders who form 17 per cent of the total number of actual cultivators and some of whom deal with larger areas of land than most of the actual landholders.

I had expected that these new non-landholding cultivators would be chiefly outsiders. This is not however the case. Practically all of them are members of the village who had not formerly cultivated land but who had official connection with the village, such as village mohammedan, the village barber, and so on, together with some members of the leading families who for some reason had no share in the land. It will thus be seen that the average size of the area cultivated by one man is greater than the area owned by one man. If we take 10 acres as being the smaller limit of an economic holding then we find that while only 17 per cent of the holdings are above this limit, 23 per cent of the areas cultivated are larger than this. There is hence a tendency for the area of cultivation to be larger than the area owned. In spite of this tendency, however, the bulk of the areas cultivated are still incapable of supporting the families in ordinary village conditions.

If instead of considering the total area cultivated by one man we turn to the extent to which this is cut up into fragments we find an unexpected state of affairs. The number of fragments in a single men's cultivation is even greater than the number of fragments in a single holding. The number of separate plots cultivated separately in the village is not less than 729, and again by far the greater proportion of these are less than one acre in size. All the remarks which I have made regarding the evil effect of the minute subdivision or of the cutting up of holdings into minute fragments is of very much greater force when applied to the cutting up of cultivation into such fragments. In a village such as we are considering without any material amount of irrigation, it seems to be a disadvantage without any mitigating quality. If the plots are close together the evil is modified, but in other circumstances (and these are by far the most frequent) it means endless loss of labour and time without any compensating advantage.

I am not desirous of discussing here remedies for this state of affairs; but two results of this excessive fragmentation of holdings should I think have attention drawn to them. (1) It prevents effectually any outsider with capital from entering on cultivation on a large scale in this village. When a man may have to deal with 20 or 30 or even more landowners in order to get a stretch of land of 30 or 40 acres, and any one of those can spoil the continuity or self-contained character of his cultivation, nine men out of ten will refuse to have anything to do with such a scheme. (2) The impossibility of introducing outside cultivators with more enterprise makes the introduction of new and better ideas in agriculture exceedingly difficult. Small holders, when conditions favour the introduction of new ideas, make the most

progressive cultivators in the world; when the land is so excessively cut up as in this village, which I believe is a typical one in the western Deccan, the people form a body as hard to move from tradition as any we can conceive of.

VI

This leaves us to consider the character of the people, their caste, their material condition, their sources of income, and in general, the manner of life which results from the conditions in which they are placed. The village with which we have dealt is a small one, and from a recent house to house census which we have made it contains 112 families and a population of 556. By far the larger proportion of these are, of course, Marathas by caste. There are in the village, however, as in practically all other villages, a few families of village servants such as a single Mohammedan butcher, a chambhar for making shoes, a barber, four families of *mangs* whose principal duty is to make ropes, and in addition nine families of *mahars*. Housing in the village is astonishingly good, considerably better than in many, if not most, villages I have visited. Each house, in fact, has an average area of about 200 square feet. There are five people per household—a rather large number at first sight. But many of the families are joint and the number of children is exceedingly small. Though there are nearly two men and two women per household, yet the number of children, both boys and girls, is only 164 in the 113 households of which the village consists. This is to me somewhat extraordinary and, if found to be the case in other villages, would seem to be an exceedingly serious matter. Some years ago I drew attention to the small number of children in certain communities of the depressed classes. The number

here, in a village composed almost entirely of Marathas, presents the same condition of things in an even emphasized form.

By far the larger proportion of the people in the village work on the land, but the place is just near enough to Kirkee and to Poona to cause a considerable number to be attracted to work in these places. Of course recently, at the time when our census was taken, the ammunition factory at Kirkee was working at extreme pressure; but I must own that I was astonished to find no less than 87 men and boys from this village were going there every day to work. Considering that there are only 287 males in the village this means that about thirty per cent of the male population go five miles every morning to work in the Kirkee factory, and five miles back again in the evening.

Beyond this, eight people from the village carry milk daily into Poona City for sale. Each one conveys from five to six seers and may be considered to obtain about six annas per day for this service. Thus practically the total time of eight people is taken in carrying 100 pounds of milk to Poona City for sale in the city. There are a few others who work at jobs other than cultivation. Some who possess bullocks do carting on the roads. One or two stone quarriers live in the village, and there are besides the village servants of whom I have already spoken. So far hardly anyone has gone from this village permanently to work in Bombay. It has its representatives, however, at Bombay, Poona and at a few other large towns, who take temporary labour there and return to the village when needed. At the time of our inquiry there were six men away in this manner.

Thus what would be purely an agricultural village if the subdivision of land was less complete than it is, has developed into one from which nearly a third

of the male population is practically compelled to work outside. One can say with confidence that if the village were further away from a labour centre, a large proportion of the people would have to go to reside in Bombay or elsewhere for work. The going is not a choice; it seems to be an economic necessity. Here the Kirkee factory takes the place of Bombay, but the principle is the same, and it seems the direct result of the fact that most of the holdings are now too small and too scattered to maintain their owners.

Such going away would probably be only the second effort on the part of the village people to retain a sound economic position. The first would be the borrowing of money either on mortgage of land, or on personal security with a guarantee of selling the crop through the moneylender who advances the money. I have been fortunately able to get what I believe is a fairly accurate statement of the debts of the people of the village. Debts on the security of land are now officially recorded; the remainder is generally so well known that a false statement would soon be detected. The debts are Rs. 5,820 on the security of land under one of the various forms of mortgage and Rs. 7,495 on personal security, or a total of Rs. 13,315 on the village. This is an excessively large amount, and as a result the interest is very high, varying from 12 per cent to 72 per cent. The average interest charged is $19\frac{1}{2}$ per cent. This means an average indebtedness per family of Rs. 118,—and if we take all the debts as a charge on the land, an average charge of nearly Rs. 13 per acre. Considering that the average sale value of land in the village is probably not more than from Rs. 70 to Rs. 90 per acre, this would mean that the whole of the land is involved to the extent of one sixth of its value at least.

This assumes, of course, that the land is the only capital, and this is very nearly the actual state of affairs. Beyond the land the cattle, numbering 284, represent the chief asset of the people. The value of implements may almost be neglected, and that of houses is very small. I hope later to get more accurate figures, but for the present I think the total sale value of the village and its property cannot be much more than one lakh of rupees. If this is the case its indebtedness is over 13 per cent of this sale value, and entails an annual charge on the village of Rs. 2,600.

This load of debt seems to me to be the first result of the extreme subdivision of the lands, or in other words it is due to the increase of the population tied to the land without the increase in the intensity of the cultivation necessary to support them. When by incurring debt the position became no clearer, then a certain number of the members of most families have gone away for work. In the case of seventeen typical cultivators' households for which we have data on which, I think, we can rely, no less than 33 per cent of the total income came from such outside sources. I cannot help thinking that this is likely to increase, and that either a complete separation from the land of a considerable proportion of the young male population will occur, or else while retaining an interest in the land as owners, they will in a much larger measure than at present become labourers elsewhere and sublet the land which they hold. The land in the village has still a rental value of Rs. 7 per acre on the average, or from four to five times the amount of the Government assessment.

The only alternative to this it would seem, would be a very considerable increase in the intensity of the cultivation by more careful treatment of the crops.

the people now have, or else by the introduction of more paying crops than they grow at present. We must therefore now consider their crops and methods.

VII

The cultivation at Pimpla Soudagar is absolutely typical of the dry villages of the Western Deccan. Very little advance in implements and methods seems to have yet been made, though some new crops have been introduced in recent years. As to implements of cultivation a complete set such as is used by the people would cost about Rs. 40, and they are all made locally from beginning to end. The wood is grown in the village, the carpenter is a servant of the village, and except for the very small quantity of iron required for the tip of the plough-share and the blade of various other cutting implements, the village would be quite independent. All repairs to these implements are paid for in *baluta* or a fixed charge on each crop produced,—but the carpenters are paid in cash for new implements made. The use of the modern iron plough is only just beginning, and the hire of these from Poona shows signs of being taken up.

I have already alluded to the very large area of fallow. This is always a sign of backward agricultural methods, of insufficiency of manure, and generally of inadequate cultivation. As a matter of fact the only manure available in Pimpla is that from the cattle, and some of this is at least preserved in a series of primitive manure pits outside the village site. There are no cattle sheds in the village whatever. The animals either remain outside or else are tied in the verandahs of houses. No use whatever is made of the cattle urine and two thirds of the dung is used for making into dung cakes for the Poona market. All

around the year, except in the rainy season for three or four months the process of preparing cakes for burning goes on on the rocky parts of the river bank. The sole manure in the village is therefore at most one third of the dung alone from under three hundred cattle, most of which are away the greater part of the day where the dung cannot be utilised for manure at any rate. I estimate that not more than 400 cart-loads or 150 tons of cattle manure, mixed with house refuse, is available each year in the whole village.

It might at once be asked why outside manures are not purchased. The people of this village, and of all others where irrigation facilities do not exist, maintain, and I believe that they are right, that unless you can secure an adequate and certain water supply, it does not pay to lay out money in buying manures. The water is so uncertain, that the risk of wasting this money is too great. The only manures which it has paid to apply, so say the people, are the cattle manure which costs them nothing, and that obtained by allowing shepherds to feed and keep their sheep on the land which it is desired to manure. The crops are grown, therefore, with very little manure at all, for 150 tons of cattle manure per annum, and say 40 acres on which sheep have been allowed to stay, makes a very small quantity. The yields of crops are hence very small. The small yield is probably still further diminished by the fact that rotations seem very little attended to. Only forty acres in the whole village were under leguminous crops (except peas, of which more later), or four per cent of the cultivated area, and these are recognised as the crops which keep the soil in good condition.

The cause of this seems to be that the people will not cultivate a crop unless they consider it is fairly

certain, and unless it is either needed for the food of their own families and animals, or else brings cash into their hands. The idea of using crops to build up the fertility of the land has not entered the minds of the people at all. And this is the case in spite of the ease with which it could be done. There seems to me a very large field of work in villages similar to Pimpla in showing to the cultivators how, at a minimum of cost, the fertility of the soil can be built up by a green manuring crop in the rainy season.

The actual cropping of the village is very typical. *Jowar*¹ occupies by far the greatest area, giving, as it does, both grain and fodder, while *bajri*² either alone or with *tur* (pigeon pea) takes its place on the lighter land. These crops form the centre of the cropping scheme in most dry villages of this part of the Deccan. The produce of neither of them is usually sold, and they form the staple food of man and beast.

Side by side with them are the money crops—those which are sold and for which cash is received. I do not know why cotton is not grown here,—but there is none. Formerly the money crop used to be wheat, rotated with *gram*, and twenty years ago we were told the village was largely a sheet of wheat in the cold weather. This has now been largely abandoned owing, the people say, to the repeated failure of the late rain in October and November which is essential to the successful cultivation, and to the increasing need of fodder for cattle, of which wheat furnishes very little as compared with *jowar*. There is no doubt that in the last fourteen years the late rains have been very much less certain than they were thirty years ago. Between 1877 and 1890 adequate rain for wheat fell in Poona in October in twelve years out of fourteen, from 1900 to 1914 it fell only eight

¹ *Sorghum vulgare*.

² *Pennisetum typhoideum*.

times out of fourteen. In November in the former period the rain was sufficient in nine cases, in the latter only in three cases. Whether this is a cyclic variation and a period is coming when wheat will be again a suitable crop we do not know, but the change in the last twenty-five years is as clear as any such change can be, and the cultivators are quite right in their contention that the rain has become less suitable for wheat grown without irrigation.

It is curious to find that wheat has been replaced by two crops, largely grown together, whose disposal depends purely on the nearness of the Poona market. We were astonished indeed to find that wheat had to a considerable extent been replaced by carrots and peas as a money crop in the village. These crops are now grown extensively, and the crop is stated to need far less rain than wheat required. Carrots give a cash crop in Poona, so do green peas; the tops of the former and the vines of the latter are excellent fodder.

The rest of the land is devoted to less important crops. Niger seed or black *til* is an oilseed which forms the favourite crop of light and shallow land. Gram for some reason which I cannot understand is now a minor crop on the same class of land. Groundnut which has been such a great success elsewhere in Western India, is not welcomed here, and is said not to pay nearly as well as carrots and peas.

Let us consider the returns from these crops, for it must always be recognised that each crop, in the cultivators' minds, must pay its way. We can calculate these in two ways. One is that usual here, when we give the return supposing all labour to be paid for. In the other we suppose the cultivator's labour is his own, and that it should not be calculated in the return. The results with each of the

crops, under both methods of calculation are as follows :—

		Profit per acre paying for labour		Profit per acre with cultivators' own work
		Rs.	As.	Rs.
<i>Jowar</i>	...	12	6	18
<i>Bajri</i> and <i>tur</i>	...	7	1	13
Carrots and peas		13	0	33
Wheat	...	12	0	15
Gram	...	13	10	15
Niger seed	...	4	0	6
Groundnut	...	7	12	27

The first column gives the return to a capitalist farmer; the second to a working cultivator. The difference is greatest with those crops which require the greatest labour, and one can easily see why after the food for the household has been produced, a cultivator prefers a crop like carrots and peas to one like wheat, apart altogether from the question of the climatic difficulty in recent years. The latter crop (wheats) would be the natural resource of a capitalist; the former is naturally preferred, and is likely to be more preferred in the future by working cultivators.

The average net return per acre of land cultivated in the village to a working cultivator is about Rs.14-8. Ten acres will therefore bring Rs.145 or about Rs.12 per month. It will be seen that this is little enough for the maintenance of a family; a less quantity of land will make such maintenance impossible.

VIII

With this I must stop. I have only been able to sketch in the slightest manner some of the more obvious results of our inquiry. But we have seen how, in a typical dry village in the Deccan, the population

has increased, the number of land holders has increased, and the holdings have become so split up into fragments, that not only are the areas now held too small in the vast majority of cases to maintain the family which hold them, but also they now exist in the most awkward form for economic cultivation. We have seen how this was first met by the incurring of debt, which now hangs round the neck of the village to the extent of 13 per cent of the total value and pays about 20 per cent on the average in interest. The cultivation of a dry area can never pay for this, and the next step has been the going out of nearly 30 per cent of the whole male population to non-agricultural work. This enabled the balance to be kept for the moment,—but the next step seems to have been the modification of the cropping so as to make the village more self-sufficing for food and fodder and the devotion of more area to a crop which at least pays a working cultivator better than that formerly grown. What will be the next? I can see no hope unless one of three things happens. Either the intensity of cultivation must be increased, and to do this, the removal of some of the present load of debt and hence more easy financing seems to be needed. In addition better use must be made of the soil resources either by the demonstration of the paying character of green manuring and other methods, or else new crops must be found which will yield better and more certain returns in the soils of this village. Or finally some change must be made which will prevent, if not the subdivision, the excessive fragmentation of the land, and will remove from an interest in the village land a large number of those who now have it. I should myself regret to see this removal of population, and the creation of a large landless proletariat, but I do not wish to impose my views in the present paper. I

have tried to present a cold-blooded sketch of actual conditions,—and I leave others to thrash out the many problems which our study of this village raises,—itself one of many thousand similar communities in the Bombay Deccan.

HAROLD H. MANN

RAILWAY POLICY IN INDIA

D. A. BARKER, I.C.S.

A letter relating to the question of the comparative advantages of the management of railways by companies and directly by the State has recently been addressed by the Secretary of the Railway Board to the Chambers of Commerce, Trades Associations and other bodies in India whose interests are specially affected by the railway policy of the Government. This letter states that the question therein considered "has twice in the last two years been discussed in the Imperial Legislative Council and it has frequently been considered in the public press. In the second debate in the Legislative Council the Hon'ble Member in charge of the Railway Department said that the Railway Board were carrying out a departmental investigation of the question. This investigation has been completed. It has been mainly directed to an examination into the value of statistics, but owing to the widely divergent conditions which prevail on the different systems of railways in this country, the Railway Board have been forced to the conclusion that it is impossible to base any definite finding upon statistical results. They have decided therefore to pursue the matter by an enquiry into the practical side of railway working founded upon everyday experience of those commercially interested in railways in order to determine whether State or Company-managed lines have rendered the better service

to the public." This letter concludes with a series of questions, and has attached to it an able note on the case for State-management. The third paragraph of this note is of much interest and merits quotation at length. It runs as follows:—"The main point, however, is one of principle—what should be the objects of railway administrations and how are these best attained. The opposing views on this point are, first that railways should be administered as part of the machinery for the general development of a country, whether this is remunerative from the point of view of the railway account or not, that this task clearly cannot be demanded from private enterprise which must have an eye to profits, and that consequently railways fall of necessity within the domain of State industries. On the other hand it is urged against this view that it is based on the assumption that railway profits are vicious and are secured only at the expense of the general public; that this assumption is incorrect and that there is not in fact an antagonism between the commercial principle of railway working and the general interests of a country; that however frequently it may be overlooked the fact remains that there is a definite and strong community of interest between railways and trade, neither of which can prosper without the other; that consequently railways will do all they can to foster trade by all means which either immediately or in their ultimate result they can make remunerative to themselves; that concessions in rates which will not even in the long run prove remunerative amount to a subsidy; that subventions in this form are open to obvious objections and that they are certain to affect very seriously the revenue from railways."

The history of railway development in India affords little assistance towards the solution of the question

at issue, but it may be instructive to consider very shortly the main tendencies of the past. In the railway history of India, both in respect of construction and of management, there are three main periods. In the first, private enterprise was favoured by the authorities but capital was shy, and intending promoters came to the Court of Directors with requests for financial assurance. An expert, Mr. Sims, was sent out to India to enquire into the possibility of railway construction in a country subject to torrential rain, the ravages of wild beasts and the "vertical rays of the sun". Mr. Sims, however, was not daunted by the climatic and other difficulties and recommended the introduction into India of this "refined mode of transit". Accordingly contracts were made in 1849 with the East Indian and Great Indian Peninsula Railways and in 1853 the first section of line was opened to traffic. According to the original plan three railways—the Great Indian Peninsula, the East Indian and the Madras Railways—were to be constructed by Joint Stock Companies. The State guaranteed interest at five per cent on all capital called up. The amount of this interest was to be a first charge on the net receipts, and the surplus, after payment of the interest, was to be shared equally by the State and the company. The lease was for 99 years, but the State obtained the option of purchase at fixed intervals. Interest being guaranteed on all capital called up, the companies had no reason to be economical and, despite the efforts of the Government engineers to prevent undue extravagance, construction was carried out on an expensive scale. Thus the Government became liable for the interest on a large capital and their difficulties were increased by the fact that the interest was payable in sterling and therefore, owing to the fall in the exchange, represented an ever increasing sum when calculated in rupees. Four

other lines were undertaken shortly afterwards on similar guarantees, but owing to the causes indicated above these bargains proved somewhat expensive to the Government of India and a reaction began in favour of direct State action. The policy of constructing irrigation works out of borrowed capital, which had been approved by the Secretary of State in 1864, was in 1869 extended to railways, and between the latter year and 1880 several railways were built by the State. A committee of the House of Commons which sat in 1879 recommended that railway construction by private enterprise should again be encouraged and accordingly in 1880 we find the beginning of a new system of guarantees. Railways built under the new system, *e.g.*, the Bengal Nagpur and Indian Midland Railways, were from the first owned by the State. Part of the capital was provided by the State and part raised by the companies, and on the latter part interest was guaranteed at the rate of 4 per cent. This guaranteed interest together with the interest on the capital provided by the State was to be a first charge on the net receipts, the State to have a fixed share of any surplus. On terminating the agreement the capital provided by the company was to be repaid at par.

From 1879 onwards there has been a gradually increasing tendency to substitute company construction and management for direct State action, though the Select Committee of 1884 recommended that State construction should not be entirely relinquished. But the reaction from State management and construction was slow and often interrupted. In 1880, when the East Indian Railway was purchased by Government, it was leased to a working company. During the period 1880-1890 the options of purchase held by Government, in respect of the Great Indian Peninsula, the Madras, and the Bombay Baroda and Central India Railways, fell in,

but were not exercised. Four other guaranteed railways were, however, bought by Government during this period and were all taken under State management. In striking contrast to these arrangements the Rajputana-Malwa Railway, which had been worked as well as constructed by the State, was handed over on a working lease to the Bombay, Baroda and Central India Railway. As a vigorous critic of Government remarked. "To sell a railway one day, and buy another the next; to build a railway and then lease it to a company, and at the same time to take over another line on lease; these inconsequential proceedings are sufficient indication of the total want of systematic policy and good judgment which has characterised the railway administration of the India Government".¹ But this was written of a transition stage, and with lapse of time a policy of management through companies became more distinctly marked. Since the purchase of the Oudh and Rohilkhand Railway in 1889 the area of State management has not been largely extended. In respect of the Great Indian Peninsula, the Bombay Baroda and Central India, and the Madras Railways the State exercised its option of purchase in 1899, 1905 and 1907 respectively, and in each case has handed over the property to a company on a working lease. As the Mackay Committee remarked in 1907 "the consistent policy of the Government of India for many years has been to arrange for the railways in India, while remaining State property, to be leased to Companies which work them on behalf of Government on a profit sharing basis. There is no disposition on the part of Government to depart from this policy which has worked satisfactorily." In pursuance of such a policy various expedients have been utilised for the encouragement of companies. In several cases—

¹ Chesney, *Indian Polity*; c. xix.

the most important of which is the case of the Bengal and North Western Railway—subsidies have been given. Such subsidies may be either to revenue or to capital and may consist of a free supply of land, timber, or fuel, or may be annual cash grants. In 1896 the Government of India published a resolution embodying the concessions which it was prepared to give “for the construction of branch or feeder railways, such concessions being usually confined to lines not exceeding 100 miles in length.” Under the terms of this resolution the company is required to raise the necessary capital, and land is supplied free by Government. The right to a general control over the management and construction of the line is reserved to the State which also has a right of purchase at fixed dates, the purchase price to be fixed with reference to the net earnings of the three years previous to the purchase subject to a maximum and minimum percentage of cost price. As regards guarantee this may take one of two forms (*vide* Resolution of June 23rd, 1916). In cases where the main line is worked by a company Government guarantees to the Branch line a dividend of $3\frac{1}{2}$ per cent on actual capital expenditure; but all profits earned by the Branch in excess of 5 per cent on this expenditure must be divided equally with the State. In cases where the main line is managed by Government the Branch line company may be guaranteed a rebate (not exceeding the net earnings from traffic interchanged between main line and branch) sufficient to make up the net earnings of the Branch to 5 per cent on the total capital expenditure. When the net earnings alone exceed 5 per cent on such expenditure half the excess must go to the Government.

It has been shown that the railway policy of the Indian Government began with a decided preference for

company construction and management—a preference founded, no doubt, upon existing English practice. Subsequently, owing to the expensiveness of the guarantees first given, a reaction ensued in favour of State construction and management. Finally, after a long period of uncertainty and vacillation, lasting from 1879 to 1890, there was a return to the policy of encouraging private enterprise, which has lasted until the present time. Railway practice, therefore, so far as India is concerned, would seem to favour company management—a conclusion which is supported to some extent by existing practice in the two great countries of railway development, England and the United States of America. The experience of France and of New South Wales also, in respect of strikes of state railway employés, shows that the existence of a large body of officials in control of important public facilities enables a very dangerous pressure to be exerted upon the Government. But the possibility of strikes, it should not be forgotten, has also been indicated as a reason for State control. A strike of railway employés, it has been said, is a development which, in the interests of the public, cannot be lightly tolerated. If a railway administration refuses the just demands of its employés the State must step in and insist that the administration shall admit such demands. But any considerable increase of expenditure on wages must be followed by an increase of rates. The State, therefore, acting in the interests of the public may be compelled to settle wages and also rates. Would it not be more simple for the State to take over the management altogether?

But the burning question of railway management is the question of rates. It is probable that the view quoted in paragraph 3 of the Railway Board's note, namely that railways should be regarded merely as a system

of development—is held only by socialists and by those American publicists who are overcome with fear of the big corporations. There is, however, a considerable body of uninstructed opinion which regards private management with aversion owing to the apparently capricious manner in which railway rates are fixed, and for this aversion there is at first sight some justification. It will therefore be useful to consider shortly the nature of railway rates and the points which must be regarded in compiling their schedules. It will be shown that discrimination, *i.e.* the charging of different rates for different goods and sometimes for the same goods over equal distances, and of non-proportional rates for varying distances, is not only possible but necessary in consequence of the inherent financial conditions of railway working.

The first point to be noticed is the complex nature of railway expenses, and the large expenditure which must be met independently of the actual running of trains. Thus the payment of interest to the debenture holders, of dividends to the share-holders, of money for repairs of the buildings and permanent way, of salaries to the central and inspecting staff, will be expected whether trains run or not. The addition of an extra train to the existing program will not add anything to these expenses, neither will the subtraction of a train diminish them. An extra train will imply only the employment of another guard and engine driver, the purchase of more coal and the addition perhaps of one or two station hands. The addition of an extra truck will mean merely the burning of a little more coal. On the margin, that is to say, the cost to the railway of conveying a truck-load of goods is merely the cost of the coal required to haul that truck. If the freight charged for that truck is greater than the cost of the coal then the transaction may in one

sense be said to be profitable to the railway. But if the railway, as a whole, is to be a paying concern it is obvious that the greater part of the freight carried must pay not only the expenses of haulage but also a due share of the fixed expenses, the interest to debenture holders, dividends to shareholders and so on. As a general rule rather more than one half of the total expenses of a railroad are incurred with respect to the general upkeep of the property (fixed or undistributed expenses) whilst the remainder is incurred in haulage and handling of traffic at stations (operating expenses). If the total expenses of conveying a ton of goods from A to B is Rs. 2 this cost can be divided into Rs. 1-2 for fixed and Rs. 0-14 for operating expenses. Then if the railway makes a rate of (*e. g.*) Re. 1 for one commodity X, this rate will prove profitable provided the rate for another commodity Y is fixed at (*e. g.*) Rs. 3, so as to cover the fixed charges not only for itself but for X also. It is *possible* therefore for a railway to discriminate largely in respect of rates. But such discrimination is not only possible; it is necessary as the following considerations will show. Discrimination is made necessary by the following conditions of working:—

- I. Variations in length of haul.
- II. Variations in value of freight.
- III. Variations in conditions of traffic.
- IV. Competition.

First, then, as regards variations in length of haul. If a railway were managed with the object of giving equal facilities to all its customers it would naturally charge strictly proportionate rates for varying distances; it would, for instance, for carrying a ton of coal fifty miles charge twice as much as for carrying a similar load twenty-five miles. But in actual practice such a scheme of rates is not practicable, for

the reason that the long distance traffic could not exist at all on purely proportionate rates, and a railway which fixed such rates would practically be confined to short distance traffic. The obvious common-sense course, therefore, is to charge high rates for short distances and low rates for long distances. Since railways, as a general rule, provide a means of transport infinitely more speedy, cheap and convenient than anything previously existing, they can and do reasonably demand to discriminate in favour of the long distance traffic in the interests both of the railways and of the distant areas. The short-distance traffic though thus discriminated against is materially benefitted by the existence of a railway, which but for the prospect of long-distance traffic might never have been built at all. In the United States of America, where such distance discrimination has aroused more discussion than elsewhere, the only limitation placed upon it by law is the rule that, except in special cases, railways may not charge more for a short haul than for a long haul over the same line.

A still more important cause of discrimination is the difference in value per unit of weight or unit of content of the goods carried, and this cause acts with ever-growing pressure as the length of haul increases. If equal rates were charged per ton, or per truck, whatever the nature of the goods carried, it is obvious that cheap and bulky goods such as wood and grass, and cheap and heavy goods such as coal and iron, would be entirely cut off from railway transportation except for very short distances. Such goods cannot in fact afford to pay their due share of the fixed expenses. They can afford, up to certain limits of distance, to pay their share of operating expenses and perhaps something over, and thus afford a source of profit to the railway, provided their share of fixed

expenses is found from elsewhere. Valuable goods of small weight or bulk, on the other hand, can well afford to pay not only for themselves but also for part of the expenses of carrying more bulky goods. If, therefore, the railway wishes to carry both classes of traffic it must charge high rates for the one and low rates for the other; it must, in railway parlance, "charge what the traffic will bear." But despite this discrimination in favour of cheap goods it often occurs that the railways are charged with "killing" promising industries by the heaviness of their freights. It is argued, for instance, that if railway rates on the carriage of wood or grass were reduced it would be possible to exploit the many hundreds of square miles of forest which now stand untouched in the Himalayas, or to develop a trade in grass which should do much to stave off periodical fodder famines. Such charges may, of course, be in some instances correct, but in general they seem to be based on the assumption that railways can profitably carry freight at any rates whatever. It is extremely difficult even for railway officials to decide whether a particular rate for a particular commodity will pay or not and certainly no uninstructed onlooker could attempt to solve such a question. If it be desired to stimulate any industry by low freights it is probably best to do so by authorizing shipments at favourable rates and charging the difference between the favourable and normal rates to the Government or to a special fund, as is done in India during fodder famines in respect of grass. The cost of the bounty can then be clearly calculated.

The third cause of variations—namely conditions of traffic—is more simple in its nature and brings about discrimination which is more apparent than real. A railway must necessarily charge high rates for goods which are troublesome to handle, or which require

special precautions, such as glass goods or explosives. Similarly it charges more for goods sent in small consignments than for similar goods sent in truck or train loads. Since imported goods are generally shipped in large quantities this form of discrimination often causes the railways to be accused of favouring foreign at the expense of home traders. Thus the farmers of Kent have often complained that the rates quoted for shipments to London from the various local stations compare unfavourably with the rates quoted for French agricultural produce shipped from Dover. Their complaints are probably well founded so far as the rates alone are concerned, but if regard be paid to the volume of shipments and conditions of traffic the discrimination will be found to be justified.

Another important condition of traffic is the existence or non-existence of back carriage. Where there is a regular flow of traffic in one direction it may be necessary to encourage a flow in the opposite direction by very low rates so as to avoid having to run empty trains. This point has been dwelt upon at length in respect of shipping by the late Professor W. Stanley Jevons in his able work *The Coal Question*. He there shows that whereas the major portion of English imports consists of bulky goods her exports are mainly valuable manufactures. There is, therefore, a tendency for ships to come in fully laden and to sail out in ballast. In order to save the loss caused by outward voyages in ballast, shipowners are content to export coal at very low rates. Thus English coal can compete with foreign coal at great distances from English ports. "As we subsist more and more upon foreign corn, meat, sugar, rice, coffee, tea, fruit, etc., and work more and more on foreign timber, ores, cotton, silk, wool, dye woods, oils, seeds, etc., while returning the costly and elaborate products of our steam-driven

factories, there must be an ever-growing surplus of inward freights and a corresponding demand for outward ballast freights." This tendency results in low outward rates for coal. The same considerations apply to railways as well as to shipping. There are certain bulky classes of freight, such as wood and grass, which are exported in general from forest areas where population is scanty and where back carriage is practically non-existent. To make a profit from traffic of this nature it is necessary to charge rates which will cover not only the running of the loaded trains from the forest areas to the big towns, but also the return journey unloaded. This may seem unfair to the dealers in wood and grass, and it most certainly hinders the development of the Indian forests, but on the other hand there is no good reason why the railways should carry this sort of traffic at a loss. The difficulty is one of geographical situation and must be recognized as inevitable.

The fourth cause of discrimination—namely competition—is one which has attracted much attention and has somewhat overshadowed the purely natural causes which have already been outlined. All railways, of course, have a partial monopoly as to the greater part of their system. No company, which did not have a monopoly to this extent, could carry on an independent existence. But practically every railway is subject to competition between certain points on its system and it is between such points that discriminatory rates tend to become established. If for instance the average rate for carrying a ton of goods by rail from A to B must be fixed at Rs. 3 so as to cover both fixed and running expenses and if competition be established between these two places then what rate will tend to be charged by the competing companies? Other things being equal the company with the lower rate will

attract the whole of the traffic. Neither company, therefore, can afford to allow the other to underbid it, and so in the normal course of competition the rate will descend so low as to cover running expenses only. In such circumstances it will be to the obvious advantage of both companies to fix upon a more lucrative rate of charge and to refrain altogether from competition in respect of rates. Such an understanding is, in fact, usually effected wherever there is direct competition between railways; but in cases of indirect competition it is often difficult to arrive at any compromise and the result is a continuously favourable rate of freight between the competitive points. Thus the rates for Japanese matches from Bombay to the trade centres in Northern India have to be lowered in order to keep traffic which would otherwise go *via* Calcutta, but similarly favourable rates would not be accorded to manufacturers of matches situated in Southern India for goods sent to the north. This may seem a genuine grievance to the Indian manufacturer, but what can the railway do? If it raises the rates for matches from Bombay the Japanese traffic will simply be diverted to Calcutta and the Indian manufacturer will not be benefitted at all. If it lowers the inland rate to correspond with the rate from Bombay it will have to raise some other rate in order to make up for the loss so incurred.¹ That is to say the match industry will be subsidised at the expense of some other industry—a subsidy for which no obvious reason exists. The fact is that when a railway discriminates against any class of goods it is in general merely giving effect to some natural disadvantage under which that class of goods labours in respect of the more favoured classes. Such disadvantages cannot be done

¹ It is assumed that on existing rates the railway company is making normal profits; and that it must in the long run continue to make normal profits.

away with simply by changing the system of management.

It may be said that State management would eliminate competition and would so do away with at least one cause of discrimination. This statement is true, but it has a very limited application. Direct competition, as has already been shown, is of comparatively rare occurrence and even so tends to become more rare as railways develop. In England this tendency is very marked. In 1908, speaking before the Economic Section of the British Association, Mr. W. M. Ackworth remarked,—“Within quite a few years the South Eastern Railway was united with the Chatham, and the Great Southern has obtained a monopoly over a large part of Ireland. In Scotland the Caledonian and the North British, the Highland and the Great North have in very great measure ceased to compete . . . We must, I think, assume that competition . . . is practically ceasing to have any real operation in regulating English railways.”

It is moreover true that railways labour under very strong inducements to do their best for the trade of the areas which they serve. They are in the main guided by an invisible hand which impels them in their own interests to make rates which will favour trade as far as possible. That very factor of railway finance—namely the high proportion of fixed capital—which makes discrimination possible and reasonable renders it necessary for the railways to attract as much traffic as possible. As we have already seen it costs a railway very little more to run an extra train, and practically nothing to run an extra truck. Having embarked a large amount of capital on constructing an extensive permanent way and multitudinous buildings it is obviously sound to utilise this system as intensively as possible by developing traffic

and encouraging industries. Of course, a railway can abuse its monopolistic position. It may, for political or other reasons, differentiate between individual traders in respect of similar facilities. It may, especially in a new country, indulge in land-speculation and, by means of its power to vary rates to and from the area of speculation, may raise or lower the value of farms or of business properties to suit its own immediate interests in real property. But such forms of unfair discrimination and speculation can for the most part be checked by legislation which leaves the management of legitimate business entirely to the railways. Subject to such legislation, and to a reasonable schedule of maximum rates, railways may as a general rule safely be left to seek their own interests in their own way. So far as rates are concerned, a mild degree of state regulation is quite sufficient to prevent abuse. Other evils there are, no doubt; the eradication of which is a more difficult task and will require, perhaps, something more than mere regulation. But a discussion of these evils must be relegated to a subsequent paper.

AGRICULTURAL BANKS IN INDIA

—A REJOINDER

A. C. CHATTERJEE, I.C.S.

LATELY REGISTRAR OF CO-OPERATIVE SOCIETIES,
UNITED PROVINCES

In the first issue of the *Indian Journal of Economics* the place of honour was occupied by a long and powerful article from the pen of the Hon'ble Mr. D. E. Wacha advocating the establishment of a large Agricultural Bank in each of the different provinces of India on the model of the Agricultural Bank of Egypt. The article has since been republished in the form of a pamphlet and has attracted considerable attention as is only natural with regard to a proposal made by such an acknowledged authority of financial standing and political experience as Mr. Wacha. So far as the article gives a historical retrospect of the measures adopted from time to time to ameliorate the indebtedness of the Indian peasant, it does not require any reply. The question whether the condition of the Indian cultivator has on the whole improved or deteriorated during the last half century, a question which Mr. Wacha answers most decisively without quoting any facts of evidential value, is much too large to be debated within the space available in the pages of a quarterly magazine. But the condemnation, partly open and partly tacit, of the system of co-operative credit, for the development

of which a large and growing body of non-official Indians have been labouring during the last ten years or more, humbly and unostentatiously and without desire for or expectation of any reward in the form of dividends or honours, should not be allowed to pass without demur. Moreover the constructive proposal put forward by Mr. Wacha, *viz.*, the establishment of large provincial joint-stock banks on the Egyptian model to finance Indian agriculture, appears to be entirely unsuitable to Indian conditions. I had hoped therefore that the *Indian Journal of Economics* would publish in an early issue a rejoinder to Mr. Wacha's article. As no such reply has been announced so far I venture to submit the following observations on the subject.

It may be presumed at the outset that the Hon'ble Mr. Wacha would wish his Agricultural Banks to be constituted entirely on the Egyptian model and not on a co-operative basis like the Provincial Co-operative Banks recently organised or in course of formation in the different Indian provinces. We may also take it that Mr. Wacha does not refer to an apex bank for the whole of India to co-ordinate and finance the provincial co-operative organisations as adumbrated in the final paragraph of the Report, published about a year ago, of the Committee on Co-operation presided over by Sir Edward Maclagan. It is therefore necessary to examine the constitution of the Egyptian Bank and to ascertain how far it has actually succeeded in solving the problem of agricultural credit in that country. We have also to study whether the conditions in Egypt, *viz.*, of agricultural tenure and security for credit are similar to those that prevail in the different parts of India, and also whether the system of advances and recoveries adopted by the Egyptian Bank can be suitably adopted in the environment with which we are concerned.

At pages 32 and 33 of his article Mr. Wacha has given a sketch of the constitution of the Agricultural Bank of Egypt. Briefly the Bank has an authorised share capital, all issued, of £3,740,000, consisting of ordinary, cumulative 4 *per cent* preference, and deferred shares. There is a Government guarantee of 3 *per cent*. The Bank has also an authorised debenture capital, all issued, of £6,570,000, in 3½ *per cent* bonds the bulk of which are directly guaranteed by the Egyptian Government. I am quoting from the published Report of the Bank for the year 1915-16. The Agricultural Bank works in close touch with the National Bank of Egypt which was its parent institution, and has a local directorate with a strong London committee. Loans are advanced in two forms. The first kind is repayable in one instalment, practically in one year, although the maximum time allowed is fifteen months. These (styled A loans) are mostly for the recurring expenses of agriculture and are issued on pro-notes only, but are limited as a rule to three times the amount of the land tax payable to the Government. Advances of the second type (called B loans) are secured by first mortgage on land worth at least twice the sum lent, and repayable in annual instalments which may be extended to 20½ years. (See Annual Report for 1908, published in 1909, of Sir Eldon Gorst, H. M.'s Agent and Consul-General for Egypt, Parliamentary Publications, Egypt, No. 1.) In 1912, the maximum of A loans was increased to £E200 and of B loans to £E1,000. (£975 Egyptian are equal to £1,000 Sterling). The rate of interest had been reduced by 1907 to 8 *per cent*, and appears to be the same still. In respect of either kind of loan, application has to be made on proper forms, obtainable from the *omdah* (or head official of the village) supported by a certificate of the tax collector and handed in to the local agent of the Bank. After the loan is

approved of by the proper Bank authority, payment is made whenever practicable in the presence of an English Inspector as a protection to the borrower. The lists of sums to be recovered in principal and interest are prepared for each village separately by the Bank's agents and sent by the Head Office of the Bank to the Ministry of Finance which passes them on to the tax collectors. The Government sends lists of recoveries effected to the Bank every month. A small commission is paid to the tax collectors for their trouble.

Mr. Wacha has in his article referred with sarcasm to the optimistic reports issued every year by the special officer who administered the Deccan Agriculturists' Relief Act until a Government Commission appointed in 1913 condemned the operations of that Act. He predicts a similar nemesis to "the optimistic reports [issued by officers in charge] of the new-fangled [co-operative] credit societies." It is to be presumed that he has carefully studied the annual reports of the directors of the Agricultural Bank of Egypt for he quotes figures for the year ending 31st January 1915. He has also provided copious quotations from the annual reports of the Agent and Consul-General during the earlier stages of the Bank. For a fuller elucidation of the subject I am constrained to furnish a few more extracts from similar reports for later years. In the report for 1908, Sir Eldon Gorst mentioned that the amount of loans put out since the foundation of the Bank was £15,140,000 of which "A" loans were £2,110,000 and "B" loans £13,030,000. The repayments had been:—"A" loans, £2,018,000 and "B" loans £4,622,000. In the report for 1909, the following interesting passage is to be found:—

"Owing to a variety of circumstances, the Bank's operations during the first few years were conducted under exceptionally favourable conditions and they were not put to a severe test until the end of 1907 when the

great prosperity which the Egyptian peasantry had begun to look upon as permanent received a temporary set-back. Accurate information as to the purposes for which the loans are used has never been forthcoming, but there is little doubt that a large proportion of money borrowed was devoted to the purchase of land. Of the remainder, some was used to pay for agricultural improvements, while the balance must have been employed in settling old debts and in expenditure of a more or less unproductive nature. The Bank's operations would appear therefore to have resulted in an increase in the amount of the land held by the fellaheen, but the impression that the loans have contributed to augment the number of small owners is erroneous. The Bank does not lend to anyone not already possessed of land, so that it cannot create new individual holdings."

Sir Eldon Gorst then discusses the question whether, in view of the fact that the greater part of the loans were put out at a time when the value of land in Egypt was continually rising owing to the great increase in the price of cotton, the fellaheen have not bought such land at prices which have entailed too heavy a burden during the ensuing periods of lean years. After quoting the figures of the amounts collected and in arrears in each year between 1904 and 1909, he proceeds:—

"These figures cannot be called altogether satisfactory and they would seem to indicate that some portion of the advances has been expended unwisely or used for unproductive purposes. The loans now outstanding amount to £8,136,000 distributed over 238,000 [borrowers] and the practical difficulty of discriminating between the demands put forward is very great. Nevertheless, measures have been taken to ensure that in future there shall be more careful investigation into the situation of prospective borrowers and the purposes for which loans are required than has occasionally been the case

heretofore. It is also hoped that it may be feasible to introduce a system of collective guarantors and to form co-operative village organisations with which the Bank could deal directly. The collective guarantee would, on the one hand, ensure the punctual repayment of the loans and on the other, secure that no advances were made except for remunerative objects."

Sir Eldon Gorst concludes the reference to the operations of the Bank with proposals for facilitating the recovery of debts through the courts, similar to proposals which co-operative workers in India have been pressing for some time past. In the report for 1910 (Egypt No. 1 of 1911), Sir Eldon Gorst has the following interesting observations on the working of the Agricultural Bank:—

"There appears to be little doubt that the fellah has accustomed himself during the past few years to a higher scale of living aided thereto by the increase in value of his crops and by the loans of the Agricultural Bank—and that it is only by the severest pressure of circumstances that he can be brought to recognise the necessity of fulfilling his obligations at the sacrifice of comfort. He is also realising more fully that he can delay repayment of his debts to the Bank with temporary impunity. There is evidence also of a considerable amount of borrowing from the village moneylenders during the less favourable seasons of 1908 and 1909. When a fellah owes money both to the Agricultural Bank and to the moneylender there is no doubt that the latter recovers his loans before the Bank.

"The assistance rendered by the Government to the Bank has not been confined to the collection of its instalments by the tax collectors. No efforts have been spared by officials to bring home to defaulting debtors a sense of their obligations, and there is no doubt that,

at all events in Lower Egypt, these efforts have had considerable effect on the returns.

“The results of the past few years have led the Bank to adopt a more cautious policy with regard to the output of new loans. Advances have been restricted or even entirely withheld in districts where there are large arrears. In some villages special inspection is made before a loan is granted. The purpose for which loans are required continues to be the object of enquiry before they are granted though the value of this information is very limited.”

In the report for 1911, which was the first issued by Lord Kitchener as Agent and Consul-General, there is no specific mention of the Agricultural Bank, but the following pertinent passage may be quoted:—

“The indebtedness of the fellah has always been a source of grave economic anxiety. It is hoped that the spread of education may teach him to be more careful in his monetary transactions and that an extension of savings banks to the villages will give him the means of practising thrift and enable him eventually to clear himself of debt.”

Lord Kitchener did not refer to the Agricultural Bank in the reports for 1912 and 1913. Reports for 1914 and 1915 have not yet been issued or presented to Parliament. In the report for 1913 (Egypt No. 1 of 1914,) the latest available and the last written by Lord Kitchener, will be found the following extremely interesting observations:—

“The introduction of a system of agricultural co-operation in the village life of the community has been for some time the subject of general discussion. The possibility of successfully working such a system in Egypt and the advantages to be obtained from it have been demonstrated by experiments in several villages throughout the country. The new Ministry of Agricul-

ture will be able to supervise and assist the agricultural operations which the co-operative societies will undertake in the villages. Undoubtedly the principal factor on which their success will depend will be the degree of facility with which they are able to obtain advances of money at cheap rates. Such rates can only be obtained by establishing syndicates on the legal basis of registered civil companies and by placing their finances under the supervision of the Finance Ministry. As soon as legislation on these lines has been enacted, we may hope to see a considerable development of the application of the co-operative principle to agricultural life in the villages."

I wish to apologise for the length of the quotations, but they will serve to show that the official mind in Egypt no longer sees in the Agricultural Bank a panacea for the manifold evils of agricultural indebtedness. Not only has the nemesis predicted by Mr. Wacha for the new-fangled credit societies of India already overtaken his pet institution, the Agricultural Bank of Egypt, but it is clear that the highest authorities in that country have for some years past been hoping to adopt the Indian system, despised by Mr. Wacha, for the betterment of the condition of the Egyptian peasant. The testimony of the latest Reports of the Agent and Consul-General are singularly confirmed by the action of the Agricultural Bank itself to protect its own finances and operations.

The following instructive tables are extracted from the report of the directors of the Bank for the year February 1915 to January 1916:—

ARREARS ON ANNUAL INSTALMENTS

Year		Annuity due	Amount of annuity in arrears at end of year	Percentage of arrears to annuity
		£E	£E	
1909—10	...	1,804,141	319,408	17·7
1910—11	...	1,750,616	329,805	18·8
1911—12	...	1,587,634	247,558	15·6
1912—13	...	1,507,841	337,356	22·3
1913—14	...	1,392,255	367,756	26·4
1914—15	...	1,212,087	902,138	74·4
1915—16	...	1,001,304	258,918	25·8
1916—17	...	816,691		

COLLECTION OF ARREARS

Year		Arrears brought for- ward at beginning of year	Sums recovered during year	Percentage
		£E	£E	
1909—10	...	296,141	198,663	67·0
1910—11	...	416,887	244,110	58·5
1911—12	...	502,582	234,420	46·6
1912—13	...	515,720	199,742	38·7
1913—14	...	653,334	316,263	48·4
1914—15	...	704,977	212,569	30·1
1915—16	...	1,394,546	444,278	31·9
1916—17	...	1,209,186		

DETAIL OF LOANS OUTSTANDING

(Collated from the Reports of the directors for the respective years)

		A Loans		B Loans	
		No.	Amount £E	No.	Amount £E
31st Jan :—					
1910	...	6675	71,515	231,181	8,065,968
1911	...	1572	17,596	238,927	7,824,362
1912	...	8419	36,951	231,647	6,970,296
1913	...	3241	35,422	232,466	6,841,196
1914	...	864	8,606	203,579	6,112,685
1915	...	5	192	159,887	5,491,749
1916	...	67	1,721	122,682	4,988,297

It is evident that the non-mortgage short loans (A) are now practically negligible, while the Bank is steadily contracting the volume of its long-term mortgage loans also. The reasons for this procedure are partly described in the 1909 and 1910 reports of Sir Eldon Gorst which have been quoted above. But another and a very important circumstance has also affected the business of the Bank. In 1912, the Egyptian Government passed a measure improving the procedure for the realisation of debts for which the Bank had been agitating for some years. But at the same time it enacted the Five-feddan Law, which by prohibiting distraint being levied on the agricultural property of cultivators consisting of five feddans or less (1 feddan=1.038 acres), withdrew from all such peasant proprietors the power which they had hitherto possessed of borrowing on the security of their land. From official figures quoted in the Annual Report of the Agricultural Bank for 1912-13, it would appear that out of a total number of 1,433,423 registered native landowners in Egypt in 1911, as many as 1,292,398 owned not more than five feddans. The directors estimated that out of the 235,000 clients then on the books of the Bank the large majority were holders of 5 feddans or less and that the new law, failing the adoption of other measures, would gradually reduce the business of the Bank by about two-thirds. Representations were made by the Bank to the Government that its operations should be exempted from the restrictions of the new law, in view of the fact that the Bank was founded in 1902 at the request of the Government with the object of lending to the small cultivators on the security of their land. The Government refused to accede to these representations, but permitted the Bank to raise the maximum limits of the two classes of loans and agreed to a few other palliative measures. The Bank took powers to make advances to Agricultural

Syndicates and to *grant collective loans to groups of cultivators*. But, so far, the business transacted in this manner appears to have been small. In 1914-15, about £20,000 was thus advanced and in 1915-16, about £6,000. The reason probably is that the Egyptian Government has not yet passed the special enabling legislation for co-operative societies referred to in Lord Kitchener's Report for 1913. At all events the Agricultural Bank finds itself unable to utilise its available capital in advances to cultivators—which was originally its sole object—and has been compelled, with special modification of its statutes, to invest large sums of money in its own debenture bonds, in Government securities, in shares of the Mortgage Company of Egypt and in general mortgages.

The tables given above also indicate the growing difficulty the Bank is experiencing in collecting from its cultivator clients the current instalment that falls due every year as well as the arrears that are steadily accumulating. Another unsatisfactory feature of the work, at least from the general economic standpoint, is that the Bank is obliged every year to acquire by auction purchase a large area of land belonging to its recalcitrant debtors. Although such areas are generally resold subsequently without pecuniary loss, land management is outside the ordinary purview of a bank's work and cannot but hamper its normal business.

We thus see that notwithstanding all the initial advantages with which the Agricultural Bank of Egypt began operations, it encountered serious and almost insuperable difficulties directly the period of exceptional agricultural prosperity which synchronised with its foundation came to an end. The Bank had a Government guarantee for its capital. It lent money only to peasant proprietors who had tangible and valuable security to offer. Advances were made on the certificate of

officials in charge of the land records. Recoveries were effected through the tax collectors. From the language of Sir Eldon Gorst's report, quoted above, it is clear that a good deal of official pressure was exerted to secure collections. In spite of all these favourable circumstances the Bank was getting into difficulties when the Five-feddan Law and the removal of mortgage security compelled it to seek business in other channels, and to restrict its loans to cultivators only to transactions involving large sums or where a collective (or in other words co-operative) guarantee was available. There is no doubt that the Agricultural Bank has failed to solve the problem of agricultural indebtedness in Egypt.

Before passing on to the subject of the adaptability of the Egyptian model to Indian conditions, I may be permitted to point out that Mr. Wacha is inaccurate in stating that it had never been found necessary to utilise the guarantee given to the Bank by the Egyptian Government. Lord Cromer had also expressed a pious hope (Egypt no. 1 of 1904) that no occasion would arise for calling on the Government to make good a deficit. The necessity did arise in 1915 (vide the Directors' Report for 1914-15, p. 4), and the Egyptian Government had to pay £E11,652. It is true the circumstances were exceptional and the amount was repaid by the Bank from its profits in the following year (vide Directors' Report for 1915-16, p. 2; and Profit and Loss Account). It is also interesting to note that the $3\frac{1}{2}$ per cent guaranteed bonds of the Bank varied in price in 1913 (*i.e.* before the war) between $85\frac{7}{8}$ and $76\frac{1}{2}$ while quotations for its ordinary £5 shares ranged during the same year between $5\frac{81}{82}$ and $4\frac{11}{16}$. The closing price on 31st December, 1915, was £3.¹

We shall now briefly examine the question whether, even if the Agricultural Bank of Egypt had been as

¹ Johnson and Sanderson's *Stock Exchange Investment Hand-book*.

successful as Mr. Wacha portrays it to have been, its methods could be copied for the benefit of the Indian peasant. Mr. Wacha opines that "in all probability the reason why the Anglo-Indian bureaucracy which has been actively connected with the co-operative credit movement has looked askance at this most successful Agricultural Bank is owing to want of knowledge of the true history of the Institution from the date of its inception." We have now seen what the true history is so far as it appears in the published records. It is also an open secret that before the Indian Act of 1904 was passed the Egyptian system had been studied, to some extent on the spot, by officials belonging to the Indian Government. Moreover some years subsequently a very wealthy syndicate of European "capitalists and financiers of the highest monetary reputation" (to use Mr. Wachas phrase again) is understood to have offered to establish a similar Bank in India. Happily, for reasons that are not known to me and are possibly not unconnected with the recent history of the Egyptian Bank, this proposal came to nothing. The Egyptian Bank was based on individual and mortgage credit. Such credit, it is true, is available in the ryotwari provinces of Madras and Bombay. How far it has proved a blessing or a curse to the Deccan peasant may be to a certain extent gauged from the introductory passages of Mr. Wacha's article. It suffices however to state that the cultivating tenant of Bengal, the United Provinces, the Punjab, Bihar and the Central Provinces does not ordinarily enjoy the power to mortgage his land. On much the greater part of this area, practically all cultivation is carried on by tenants and not by landholders. In the Punjab and in Bundelkhand (in the United Provinces), much of the land is cultivated by co-sharing proprietors, but the legislature has found it necessary in both these tracts to enact special Land

Alienation Acts which seriously restrict the power to mortgage. It is not possible here to discuss the economic desirability of such legislation, but the present writer can affirm from intimate personal knowledge of Bundelkhand that the cultivating proprietors there are perfectly satisfied with the present law. The Government of Egypt has in the Five-feddan law only copied the example of the Punjab and Bundelkhand. In any case the Egyptian system could not be adopted in the greater part of Northern India without a radical change in the law. How difficult it will be to effect such a modification of land tenures, operating as it will to the detriment of the immediate interests of land-holders, must be apparent to all acquainted with the history of tenancy legislation in Bengal, Oudh and the old North-Western Provinces. For a recent manifestation in the same direction we may refer to the proceedings published by the U. P. Government in 1915 of a committee of the Legislative Council appointed to draft a new Tenancy Bill for the province of Agra. In provinces like Oudh where the vast bulk of tenants do not possess even a right of occupancy it is absurd to suggest the establishment of an Agricultural Bank for the benefit of cultivators on the Egyptian model.

There is next the question of the system of advancing and recovering loans. In Egypt it is all done through the tax collectors. I have no personal experience of the system of land revenue collection in the ryotwari provinces, but in Northern India the Government officials have to deal only with the proprietors, a body infinitely smaller than the large mass of cultivators who would borrow loans for agricultural purposes. There is at present no Government agency which can be utilised for the recovery of loans advanced to cultivating tenants. Any such agency to facilitate the operations of an Agricultural Bank will have to be created *ad hoc*. There will be the same

trouble with regard to the recommendations from Government officials that are an essential feature of the Egyptian Bank when advancing loans. It is true that the existing agencies have to be employed in advancing and recovering *takavi* loans to cultivating tenants. But those of us who have had experience of the issue and recovery of large amounts in Government *takavi* know how weak and inefficient the whole organisation proves to be in actual practice. Any impartial and unprejudiced inquirer will soon find out whether a small cultivator prefers to take a *takavi* loan carrying $6\frac{1}{2}$ per cent interest or a loan from a co-operative society carrying a much higher rate of interest. In the province of Bombay, the Central Co-operative Bank has had the advantage in a special tract of lending money on the recommendation of Government revenue officials. So far as I am aware the results have not been entirely satisfactory and neither the Bank nor the Government desire or contemplate the permanence or extension of the experiment. The utilization of Government tax collectors for the scrutiny of loan applications and the recovery of advances on behalf of an agricultural bank will have all the manifold disadvantages of the present *takavi* system and none of its advantages. In practice also the agency which is now employed only for large improvement loans and in seasons of agricultural calamities and unemployment is sure to break down if utilized for the normal business of an agricultural bank.

It is not clear whether Mr. Wacha would postulate a Government guarantee of the capital of an Agricultural Bank as is the case in Egypt. If he does, one fails to see any justification for such a measure. The Government has the responsibility for recommending loans and also for collecting the outstandings. The cultivator will not receive the money at a lower

rate of interest than he does under the *takavi* system. The Bank will not be able to obtain its capital even with a State guarantee at a lower rate than the Government does at present. The profit that the State now makes over its *takavi* transactions will provide dividends for the Bank shareholders. The system may be advantageous to the shareholders, but is certainly not conducive to the well-being of the community in general.

We have now demonstrated that the principal features of the Agricultural Bank of Egypt cannot be copied with any advantage in similar banks in India. It has also been shown that the Egyptian Bank has failed to answer the purpose for which it was founded, and that the administration has been driven by its experience to look to the alternative methods which have found favour in India. The difficult problem of agricultural indebtedness in India still remains, and everyone will sympathise with Mr. Wacha's desire to find a solution for the same. With State initiation and guidance, many Indians are seeking a remedy for the present condition of affairs in the system of co-operative credit which has already proved eminently successful in every agricultural country in Europe. Mr. Wacha pronounces it to be a failure as far as India is concerned. The only argument he brings forward is that it is beyond the power and capacity of co-operative societies with their joint capital and credit ever to raise the immense sum of 250 millions sterling which he estimates to be the total amount of agricultural indebtedness in India. The figure that Mr. Wacha names does not frighten those of us who have actually worked for the movement. For the whole of India in 1914-15, the capital of agricultural societies alone exceeded 454 lakhs of rupees or a little over three millions sterling. The total capital

of the co-operative movement was 897 lakhs of rupees, compared with only 24 lakhs in 1907. A cursory glance at the illustrative graph in the Indian blue-book entitled "Statements showing progress of the Co-operative Movement in India during the year 1914-15" will show how rapidly and continuously the capital has been rising. And all without any Government aid or guarantee. The small sum that was lent by the State to the societies at the inception of the movement is fast disappearing from the accounts owing to repayment. If the movement progresses at the present rate, one can have little doubt that the societies will be able to take over within a measureable period of time the entire financing of agriculture in India. Whether the cultivators will ever be able to carry on all their work with their *own* capital is a different matter. Agriculture is business like any other form of industry and must utilise credit if it is to flourish. The prime need of Indian agriculture is enhanced credit, and so far the co-operative system seems to be the only agency through which this need can be *safely and efficiently* satisfied.

Apart from the economic factors involved, workers in the co-operative field soon learn to appreciate the deep and wide educative influence of the movement. A statesman with a broad outlook, Mr. Wacha will not fail to be impressed with the potential value of co-operative societies in training the masses of India for true self-government if only he will personally associate himself with the movement and devote to it a small fraction of his versatile energy.

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DIVISION OF CROPS ON THE THRESHING FLOOR

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Introduction

The practice of division of crops on the threshing-floor has come down from times immemorial, though in our own times the practice is gradually falling into disuetude owing to the pressure of economic forces. There was a time when grain rents were universal, when the king's share was estimated and realised in grain heaps on the threshing-floor, when payments were invariably made in kind, money rents and money payments being things almost unknown. But now, as every one knows, what was once the exception has become the rule. Payments in grain, if prevalent to a large extent, are considered to be a sign of the complete isolation and self-sufficiency of village life; but places are still found on the Indian continent where internal village economy is but slightly impaired by the great movements of the outside world.

Although it may be thought that a detailed description of one such village is inadequate for the purpose of making generalisations as to agricultural life, yet it is not without its useful purpose. It offers two distinct advantages. It will give due prominence to minute details, which in a general study are apt to

be overlooked. It will further afford the material for a comparative study of agricultural topics of different places. And if similar studies are made for different localities, not only will the public be interested, but many of the points of interest attaching to such a study will be definitely realised. Some of these may be mentioned as:—

1. The gradual development of the system of *batāi*, as the practice of grain-division is called, has kept pace with the general economic progress of village life.
2. A comparative study of such places serves to point out that there are certain common factors which have, as Baden-Powell expresses it, “at least within wide geographic and ethnical limits”, always been at work in the production of similar types of rural organisation, and also to show positively the effects of customs, manners, soil, climate, etc., on the economic life generally.
3. The time of the division of crops is the most convenient to enable one to see the very soul of village life—the mutual relations between the landlord and the tenants and between the villagers themselves, and therein to find another instance of that “unity in diversity,” which one finds so frequently in Indian life.
4. It enables one to judge by a comparative study the economic worth of any system that takes the place of *batāi*.

The Division of Crops

Village Mukandpur is twelve miles from the nearest railway station, and 36 miles from the capital city in

one of the Eastern Rajputana States. It is held by a family of court-bards as *muafi* or free of state revenue under a royal grant or *pattā*, being in fact an *udak* village, that is, a charity gift consecrated with water. It is not a compact village in the sense of having a central *basti* and cultivated fields round about, but the *dhānis* or habitations, often with adjacent holdings, are separated from one another by patches of uncultivable waste.

The division of crops which is going to be described takes several days and is accomplished in several stages which may broadly be distinguished as—

1. Preparatory—making everything ready for the actual division.
2. Main—the actual division of crops into (a) the landlord's share, (b) the shares of the village functionaries. At this stage, it is convenient to attempt a description of the tenant's share and the moneylender.
3. Sequel—in which are performed various functions connected with the actual division.

1. During the first, after the crops are harvested, they may be threshed either in the cultivator's own home or conveyed to a common barn-house, known as *khātā* (literally a pit) to be threshed and separated from stalks and chaff by winnowing. (The *khātā* is a carefully prepared piece of hard and clean ground with a good fence all round, a few sheds to protect from the sun's heat and a water stand nearby).

Of course, all this takes place under the supervision of the landlord's watchman or *shahnā*, the importance of whose function to keep a vigilant watch in the interests of the landlord it is difficult to exaggerate. The landlord comes in person when everything is ready for the actual division in the *khātā*. If he cannot attend, he sends his agent

(*kāmdār*) alone to realise the revenue, this being known by the significant term "*lātna*". The first thing he takes in hand on his arrival is the annual survey, a crude system of measurement of field areas. This serves both to revise and to check the last year's survey and to guide the assessment for the coming year. It serves another purpose, namely to compare the patwari's entries in the *khatauni* with the landlord's *jamābandi* or revenue statement. The former contains cultivator's payments and the latter the landlord's receipts. There is no fixity of tenure in principle. The landlord may readjust the agreement or eject any tenant, though custom sanctions that particular areas should only be assessed at particular rates, and that tenants should not be ousted so long as they are paying fair rents.

2 (a). The actual division is a very interesting affair. The *chamārs* divide the gross produce, now threshed, cleaned and kept in one heap, into 4 equal shares or five, according as the landlord's share is $\frac{1}{4}$ or $\frac{1}{5}$. This division is not done by means of weights but by jar measures, these earthen jars or pots being specially marked by the Raj. To facilitate work, the *chamārs* generally divide themselves into groups of four men each, each group filling the jars from the grain heap, emptying them in one place at the same time and counting this as one throw. The number of throws in a share is counted by the score, in a peculiarly amusing sing-song tone. If, after an equal number of scores of jarfuls has been thrown into the several shares, a considerable quantity still remains, some of it, may be further equally divided in the same way. But not the whole of it is so divided. Usually a fraction (varying between $\frac{1}{80}$ and $\frac{1}{20}$ of the Rāj share) is allowed to be left behind and this is spread thickly and evenly on the surface

and is known as the *thāpā* or deposit. The quantity of grain in one throw is separately weighed so as to find out the total quantity in one share and thus is found out the total weight of the gross produce (*sarbālā*) by adding an approximate quantity for the deposit. This is necessary to calculate *kharch* which is a certain rate per maund of the Rāj share. When the heaps have been sub-divided and the Rāj share selected by the landlord all over the *khātā*, *kharch* is weighed out of the tenant's share and a variety of other demands are made from him.

(b). The village functionaries, artisans and menials then demand their wages and are given them at the customary rates.¹ It is quite instructive to watch how a particular artisan or menial, who has rendered special services and thinks of offering them at a higher price, protests and clamours to have a little more grain, and how the poor tenant, who sees his stock fast dwindling, tries to conciliate him by plying in turns threats, cajoleries, and handfuls.

3. When all these have been satisfied actual division is over, but there remain various minor transactions which are part of the proceedings, thus, (a) disposal of the landlord's share, (b) loans and advances and realisation of dues by the landlord and the money-lender, (c) preparation of the *jamābandi* or revenue statement and the disposal of miscellaneous agricultural and village affairs connected with the division of crops.

The Landlord's share

An outline of the whole system of the division of crops on the threshing-floor having been briefly sketched,

¹ But it is important to bear in mind the sense in which 'payments in kind' may be said to be customary or fixed by custom. Custom does not, as if by a rule of thumb, enable all villagers to pay the same fixed remuneration at all times alike, irrespective of the extent of the economic services rendered by a village functionary. A potter, for instance, who has supplied more pots to a particular villager will naturally get more grain at harvest time and a more prosperous villager will usually give more grain, as naturally he would have used more pots. But custom prescribes roughly a minimum of remuneration

a detailed examination of the various shares may now follow. The landlord's receipts are not, as might at first sight be thought, simply a definite fraction of the total produce of each cultivator, set apart under any system of metayer agreement, but are composed of a variety of contributions demanded under different pretexts. (It may be mentioned that these contributions are strictly extorted by agents of the more exacting landlords, who enhance their claims by inventing a series of pretexts under which to rackrent their tenants.)

The total receipts of the landlord may be said to consist of the following heads:—

1. Pure share or *bāntā*, which represents a definite fraction, $\frac{1}{4}$ or $\frac{1}{5}$, or in rare instances, $\frac{1}{3}$ of the grain heap, according to the nature of the agreement. This means the selection of one of the apportioned heaps described above. The landlord either selects his heaps all over the *khātā* and then passes over to the next demand, *i.e.* *kharch*, or takes both together from each *pālātī* or cultivator.

2. *Kharch* or expense charges, levied at the rate of $9\frac{1}{2}$ seers per maund of Raj share, *i.e.* a little less than 25 per cent, if the rate of assessment is $\frac{1}{4}$ and 5 seers per maund, *i.e.* $12\frac{1}{2}$ per cent if the rate is $\frac{1}{5}$. The origin and meaning of *kharch* is a little doubtful. It is weighed out of the remaining heaps of the tenant. On enquiry of the villagers, it was stated to be a sort of recompense for what the tenant might have consumed or extracted before grain was brought to the threshing-floor. It presupposes that the cultivator has eaten, removed or in any way extracted a certain quantity of grain. This version was evidently wrong as *kharch* would imply a payment to reimburse the landlord for his expenses, and Sir Theodore Morison also takes *kharch*

either for a unit of economic service or for services that may normally be demanded during a certain period; a departure from the commonly established usage being prevented by the force of village opinion.

to be an exaction to compensate the landlord for the expenses incurred by him in connection with the division of crops. Although he was speaking of the Rohilkhand Division only, his explanation seems to hold good for other places as well.

3. *Abhalakh* or 'desired'. In order to satisfy the Rāj the tenant has to pay a little more, and this is usually taken from the deposit or *thāpā* in a peculiar manner. The landlord's man holds a basket in his hand and presses it along the ground to the centre of the deposit so as to receive as much grain as could go inside, of itself, and then pouring into it as much as possible by a single sweep of both the hands. It seems to have originated in a time of plenty when the landlord, not satisfied with his stipulated share was chagrined at not participating by more than his due proportion in the season's prosperity. His threatening protest would naturally result in the tenant offering and requesting him to take as much as he would *like* to have. But custom has prescribed the form in which this 'desire' could be indulged, at the same time making it a permanent charge on the tenant's share. It thus resembles "the forced benevolences" of the Tudors, but it is not to be thought that it is rigorously enforced; those who have had a poor out-turn are exempted or dismissed with a mere handful, excepting, of course, by the more grasping landlords.

4. *Thāpe-kā-bānt* or Deposit-share. By custom, the tenant is not required to pay the exaction, known as *kharch*, for that portion of the gross produce which is left behind in the division by chamārs and is known as deposit or *thāpā*, and hence it is to his interest to make it as considerable as possible, but the landlord directs his watchman to see that it is not excessive. But the deposit is usually subject to the fixed rate of assessment or *bāntā*, though leniency and concession mark the

division of this portion. Thus after *abhalakh* has been taken, the deposit is again levelled and then marked into four or five equal parts (according as the rate of assessment is $\frac{1}{4}$ or $\frac{1}{5}$) by means of a rod and one of them is selected by the landlord as his share, but the full share is not generally taken. The entreaties of the cultivator and his friends usually succeed in making him forego a considerable portion. (From the conflicting mass of evidence as to the nature and origin of deposit, I would venture to suggest that it may be a sort of refund from the gross produce of what the cultivator has consumed during the period of production, in other words, it may represent the replacement of his personal consumption capital. Moreover the manner in which the landlord has his share of the deposit is perhaps due to the fact that the *thápá* being usually a very small fraction, approximately 5 per cent of Rāj share and between 1 and 2 per cent of the *sarbálá* or gross produce, does not require to be divided by means of jars or weights).

5. *Phadaká* or *Excise*.—This exaction takes the form of a contribution from the grain wages of the village artisans and menials, hence it is not a rent but rather a tax on incomes, though considering the way in which it is taken it is preferable to call it an excise. This is not very strictly demanded, the poorest menials and those village functionaries who are most serviceable to the landlord, *e.g.*, the village messenger (*balái*) or the barber, are usually exempt, though they would request the Rāj to accept a bare handful. It is very instructive to see them requesting the landlord to sanctify their earnings with a kick. According to the village custom those recipients—*payandás* (literally receivers of earned incomes) as they are called, who are paid after the Rāj share has been taken, are usually exempt, and to this category

also belong the alms of the poor, the offerings to the temple and the wages of the priest.

6. *The chaff share*.—The principle generally observed is that the chaff, stalks and fodder, etc., all belong to the cultivator, but the landlord usually has one basket or more (sometimes nothing) from the fodder heap according to the tenant's capacity to spare. Some landlords are not above taking a share of the mere husks of coarse grain mixed with straw called *dūndlā*.

7. The landlord has some share of the rainy season thatching grass and three fodder carts or two, in the season, for his bullocks from the village, but to this as well as to item 6, he is not entitled as as of right. Usually he gets grass for his bullocks from fields lying fallow.

8. One full basket of grain from the tenant's share or less if the cultivator has had a poor crop, for the landlord's bullock-cart driver or *chaudhary*. This is included in the landlord's share because it forms a part of the driver's stipulated salary.

9. The *patels* or headmen of the village have to pay a present of a rupee each at each harvest.

10. On occasions of marriage in the landlord's family the village has to pay something.

In addition to these the landlord realises fines and other dues for offences and breaches of local customary law. Though realisation of revenue goes by the name of *lātna*, meaning literally "lording it over", the term is strictly applied to exacting payments under heads from two to six inclusive. Besides, the villagers supply the landlord by turns with milk (sometimes ghee), carts and fodder, jaggery and ghee for his bullocks during his stay there. During the rains he sends his bullocks to fatten at the village expense. Any new impost is strongly resisted if meant

to be permanent, but if the landlord wants anything the villagers are but ever willing to serve him. Some zemindars do not hesitate to make their establishment charges (the salary of the watchman, etc.) their personal and other expenses during their stay in the village, a drain upon the village common fund or *malwā* as it is called, but happily such instances are not common.

The landlord has but few payments to make. He not infrequently pays in kind,—the heads of expenditure being :—

- (1) A gift of ten seers of grain, each, to the several headmen, patwari, the *shahnā* and the village watchman (regularly paid by the State). This is called *sirani* or *ghūgari*.
- (2) Alms to Brahmans and beggars who flock to the threshing-floor.
- (3) The whole of the landlord's heap of grain or *gunj* cannot by custom be disposed of; a considerable quantity a maund or two is left to be shared between the *chamārs* and the village messenger, the process being an amusing scene of a scramble to secure the larger share.
- (4) If grain is sold by measuring in jars instead of by weight, *chamārs* extract a handful for each score of jar throws. This handful is theirs by right.

Village Functionaries

After the landlord has taken his share the poor cultivator finds his heap considerably reduced, but he has yet to make a variety of payments either as charity or remuneration for the economic services rendered to him by a number of village functionaries.

They may be classified as—

(1) Charity—(a) a handful or two set apart for the protecting god of the village known in the countryside as *Bhaironji* (it appeared that it was extracted twice, once when the chamârs were going to divide the produce before the Râj share was taken, and secondly before payments were made to the village people). This grain fund is entrusted to a villager who attends the god or to some *jogi* or ascetic or sometimes added to the common village fund from which to offer a daily light at dusk to the god, (b) gifts to the village priest or brahman (who is sometimes an independent cultivator) for his support and the maintenance of the temple, (c) to religious beggars who have arrived in anticipation of alms—they are called *abhyâgats* or guests, (d) helpless lackalls who are given a few handfuls by the well-to-do cultivators.

(2) Grain wages—paid in fixed quantities to—

1. Potter.
2. Barber.
3. Carpenter.
4. Blacksmith.
5. Village messenger, or *balâi*.
6. The watchman.
7. Chamârs.
8. Waterman, who sets up a wayside water-stand for wayfarers as well as the villagers.
9. Grain wages to the village sweeper (but he renders no services and is usually a hanger-on to the perquisites of a number of villages), and other

menials and the *jogi* (who plays on an instrument) and the dancer.

- (3) The patwari's remuneration has been classed separately not because it is not wages, but because it is an important class by itself. He is usually served when all have been satisfied. He is very exacting in his dues and justly so, for he renders very important services to the cultivators as their accountant. He is considered to be the villager's man. His salary in kind varies from village to village but is generally fixed for one village, depending upon the nature of his work. Usually he gets one maund of grain or two per mot or *láo*, as it is called, from each cultivator. Besides he gets his weighing fees (usually $\frac{1}{4}$ seer per maund) for each weighing transaction, when the buyer or seller happens to be a man not belonging to that village. He also gets his customary 10 seers of grain from the landlord. A patwari is generally not confined to one village, but he holds his hereditary post for a number of villages and is comparatively speaking a well-to-do man in the locality.

The Tenant's share

It is easy to see that the cultivator is the residual claimant and he has to content himself with what is left; but even this consolation may be denied to him if he happens, as he is more often than not, to be hopelessly involved in debt to the moneylender. If so, he sees his heap or *rás* coolly taken possession of by the moneylender; or we may consider him,

with one hand depositing his grain heap as part payment of his debt and with the other borrowing from him for his daily food. If he happens to be in arrears of payment to the landlord for fines or revenue dues or debts, he cannot remove his *rās* unless he is well-known for his honesty and thrift or he brings his moneylender or some responsible cultivator to answer for him. The result of calling the moneylender to answer for him is obvious; it is simply playing oneself into his hands. If he is neither in debt to the moneylender nor to the landlord he may have to share with a partner. This has to be done on the spot if either of them wishes so. One interesting form of partnership or tenure called *nāibat*, is always fruitful of disputes. It is when one cultivator agrees to pay another for the right to lead his own well-water through the latter's land or to use his neighbour's water in his own field. In cases of dispute or arrears of payment, the *rās* cannot be removed, pending its amicable settlement or decision by the landlord. When on a heap the landlord's seal called *chānk* has once been affixed, it becomes an offence to disturb it in any way. As the division of crops takes several days, seals (consisting of a piece of moist clay impressed with *Srirāmji*) are put all over the *khātā* whenever the work is postponed for a considerable time. When work is resumed the seal is taken off by the village messenger; any grain attaching to it (not a negligible quantity in the aggregate) becomes his by custom. When describing the tenant's share, the other dues he has to pay to the landlord, though they do not strictly come under the heading of *batāi*, may now be mentioned. These are mostly *zabti* rates for growing carrots, poppy-seeds, onions, cumin-seeds, tobacco and some other important grains. The *patwari* enters these payments in the *khatauni* together with

the *malwá* expenses incurred by him. The last named item calls for some comment. These are expenses incurred jointly by the village and are paid out of the village common fund to which each villager contributes. As for instance, when a court-peon comes to a village on state business his expenses are chargeable to the village common fund or when some villager is deputed on a mission in the interest of the whole village, his expenses are met out of the *malwá*, which means 'joint.'

The Village Moneylender

No detailed description of this important personage is here attempted, but only in so far as his presence on the threshing-floor affects the division of crops. It is his business interest to attend the proceedings from morn till sunset, for not infrequently the whole of the impecunious tenant's share (all that is left to him after the landlord and other village functionaries are satisfied) has to find its way to the moneylender's granary in payment of his debts. The moneylender acts as if he were a banker of the cultivator, who deposits with him his grain income in current accounts and withdraws as food needs arise; with this difference that his deposit is a compulsory payment for past debts. He has therefore to lead a sort of hand-to-mouth life at the village Shylock's door. Another reason why the moneylender has to attend is that if his clients are not able to pay their dues to the landlord he has to be responsible for them, if they are his approved customers. The Rāj, thus, has reason to appreciate his presence and to protect and recognize his interests, and often the proprietor sides with the moneylender against a defaulting tenant. There is another reason, besides the fact that the mahajan or bania is an indispensable necessity in the village economy, namely, that

he is to an extent a wholesale buyer of the landlord's grain heap. Hence there is a unity of interests between the two, and poor is the lot of the tenant if both combine against him in the pursuit of money-making. But a moneylender will sometimes get the start of the landlord by disposing at very high prices valuable *zabti* crops purchased from tenants at very low prices, without the landlord's knowledge of the transaction and thus not giving the landlord the chance of participating in the profits by screwing up *zabti* rent-rates, though a moneylender would always find it to his interest to conciliate him. The growers of such crops cannot help playing themselves into his hands because he has such a monetary hold over them that he can always dictate his own terms. It is really sad to see how the poor cultivators adapt themselves to their abject condition and on the surface appears perfect harmony between the two.

The Sequel

After the shares of grain have been allotted and removed the landlord is confronted with the difficulty of disposing of his share. There are many courses open to him. He may (1) sell it off on the spot, (2) load his share in carts to be disposed of in the nearest favourable grain-market, (3) carry it home for domestic consumption, (4) carry his share to be disposed of to the nearest city or, if the margin of profit is sufficient, send it to the more distant markets, (5) store it away in pits in his village-seat often called *kacheri* or court. The variety of considerations which influence his judgment to adopt any of the above courses may be summarized as—

1. The price of grain of that grade and quality in the nearest country town, in the city or abroad. Usually this is the element which mostly enters into his calculations though the amount of supply materially

affects his decision to sell on the spot or abroad or to withhold for the future.

2. The cartage to the neighbouring village town, country town, and the city. It might be here mentioned that in the case of this village railway freights were prohibitive because (a) the quantity was not adequate to bear the heavy freights, (b) the distance to the railway station was twelve miles and the city 42 miles by rail, but the city was approached directly in 36 miles in bullock carts. On the whole the bullock carts were cheaper.

3. The immediate want of the landlord for personal consumption.

4. Cultivator's future necessity. The forecasts of future crops made by the grain dealer, the moneylender and the landlord, enable them to hold out for a higher price or to hold for the future.

5. Worry, risk, and expense of storing in village pits—expense of course in the sense of loss of interest, because to a village landlord the actual putting away costs nothing practically as *chamârs* have to work almost gratuitously.

6. Another important factor which generally escapes attention is the extent to which the landlord is going to invest his grain capital among his cultivators, *i.e.* the extent to which he is ready to make advances to his tenants either for production as seed or consumption at the ordinary village rates. This is done in two ways; either grain is loaned at grain rates, *i.e.* to be paid back with interest in grain at harvest prices or grain is given at the current price and interest calculated on the money equivalent and debt to be discharged in money or grain at current prices at the debtor's option.

Other considerations, not of course general in their operation, may operate, as for instance the benevolent desire not to put the tenantry at the local grain-dealer's

mercy or the moneylender's, may lead to a refusal to dispose the whole stock or *gunj* to him. Or again the demand on the part of the cultivators is allowed to have more weight as they require grain for seed or food so that unless otherwise contracted for, the landlord may retail his whole stock instead of advantageously disposing it wholesale to a grain dealer.

It is very interesting to watch the actual way in which the rate is arrived at or, as the villagers would say, "is opened". Perhaps an important grain dealer or merchant comes and offers to purchase, say five carts, Rs. 400 worth, or the whole stock even, at the rate current in the neighbourhood, or if the landlord is not willing to settle the rate, then at any price which may eventually be arrived at, and at once presses upon him the earnest money. The landlord accepts because it gives him a two-fold advantage—(a) there is an effective buyer ready to take away a considerable portion of stock at what may be termed the "making-up price". (b) He may use the fact to strengthen his position against other intending buyers without being obliged to part with his stock at once at any price. Then follows a keen struggle each party trying to guess the other's position and offering or withholding according to judgment. The landlord may be adversely affected if there comes an obliging and pressing request from a neighbouring landlord for a quantity of the grain or if a lower rate 'is opened' in the *khâtâ* of a neighbouring landlord, and then he has to come down a little. The intending wholesale buyers pretend the utmost indifference, but try not seldom to influence the seller by false reports of grain rates prevailing in the neighbourhood or of most recent transactions carried on at low rates. Finally comes a hungry cultivator having no grain at all for his daily food and who cannot borrow from his neighbour. He clamours

to purchase a little, rate or no rate. This may make the seller announce his rate, below which he will not go. If that suits the buyers, they pour in their orders and there is brisk business. If not, disposal is postponed for a day or two; each day strengthening or weakening the parties according to circumstances. At last either the buyers offer a bit higher or the landlord goes further down and sales begin. The painstaking patwari has to weigh the whole amount, for that is his duty; of course extracting his handfuls as weighing-fee according to the quantity sold, whenever custom allows him to do so. Sometimes a handful from each sale is taken away for the village priest. The news of the "opening of rate" spreads far and wide and people flock to purchase, according to their needs, and the whole heap disappears in a day or two, but if at the rate settled a considerable stock remains on hand and is not disposed, the landlord is very reluctant to come down again, for that is considered to be improper and unbecoming in the Râj. He may either have to carry away the surplus, to store it away or to dispose in loans and advances.

It is during the division of crops that villagers come from distances to buy and sell the few articles of necessity required by the cultivators and the *khâtâ* becomes a small market place. Greatest excitement prevails at the time of the disposal of crops by the landlord. This is the time when villagers assemble together in social intercourse, sing and dance at their homes, make their purchases of necessities and a few delicacies sold in the market. In a word, the *khâtâ* becomes a sort of village fair and all is business and activity. But everything resumes its ordinary monotony, as the grain heap disappears and there comes the desire to get away as early as possible, both on the part of the landlord and the cultivators. The former demands the payment

of his loans and interest, the latter, always in chronic need, try to get extension, pay a little but pray for more. When this banking business is over, the landlord takes in hand the punishment of wrongs reported to him by the watchman. He calls the headmen together, and before them are settled various petty revenue cases or civil and criminal affairs, namely those of (a) arrears of dues, (b) cattle trespass into neighbour's field or landlord's preserves (of thatching grass, fodder, etc.), cattle pilfering, petty thefts, family quarrels, inter-village disputes, etc.

For these, fines may be imposed and in extreme cases ejection from the tenement or even social outcasting may follow.

Then are decided questions of field or boundary adjustments; the good cultivators may be allotted more area to cultivate, permission accorded to some to make a permanent or temporary well, unworthy tenants ousted, rates of *batāi* settled, partnerships ratified, improvements suggested and so forth—this is a sort of a practical agricultural conference.

All this would probably end with a village dance before the landlord who would distribute sweets or jaggery (*gur*) among the villagers.

Concluding Remarks

Such in brief are some of the observations made on a study of the division of crops on the threshing-floor in a single village, from a merely description standpoint, and as already pointed out in the introduction, a detailed description of the system of *batāi* in one locality is inadequate for the purpose of making generalisations. The observations made are not, therefore, to be considered as strictly applicable to other places, where this system obtains. Nor would it be fair to conclude from the above description that the

system of *batāi* is working quite smoothly to the entire satisfaction of all the parties interested. In fact the same evils and objections which found constant utterance in the early settlement reports of British India, hold ground and so real indeed is the danger of the abuse of this system, that a suggestion to adopt the system of cash rents on fixed areas known locally as *chakbandi*, found a ready acceptance. For *batāi* gives a tyrannical power to a grasping landlord, undermining the industrial stamina of the helpless tenantry. Payment in kind does certainly avoid the technical difficulty of a fluctuating cash assessment (this is the reason why it obtains on poor soils and in precarious climates). But it leads to a succession of never-ending disputes between the landlord and the tenant—where amicable relations should specially exist. It affords the maximum of opportunity to the impecunious cultivator to conceal on the one side and to the officials and satellites of the landlord to peculate and extort in reprisal. From the above, it is not to be supposed that the metayer assessment is always excessive, or considered to be so by the tenants themselves. The tenants of a lenient landlord can indeed try to ameliorate their lot from grinding poverty to one of happy competence. When the landlord's share is 25 *per cent* the cultivator has to surrender about 33 *per cent* of his gross produce—*kharch* and other exactions included; whereas the official theory of the British revenue administration, namely, taxing below 50 *per cent* of net assets, in *zemindari* areas, brings the land revenue to less than 10 *per cent* of the gross produce. In *ryotwari* tracts and in general for the whole of India, official apologists put land revenue between 10 and 20 *per cent* of the gross produce. (*Vide Land Revenue Policy of the Indian Government 1902*, in reply to Mr. Dutt's open letters to Lord Curzon). But such comparisons are of little

avail, and are more often than not really misleading,—as the actual incidence of the revenue assessment depends much upon the way, it is arrived at, as also upon the elasticity of the system.

Two prominent features of village life which never fail to strike our attention are (1) village self-sufficiency, (2) village solidarity. The village described above, though certainly in touch with the railway and the city, is still self-sufficient to an amazing degree. Not a single article was consumed which was not locally produced (excepting the gaudy clothes of the patwari's son); so limited are their wants. As to village solidarity, nothing is so instructive as to see apparently incompatible interests go hand in hand together, and this we find in every aspect of Indian life. Custom and status did really bring about a certain "unity in diversity," but the thaw has already set in. The villagers are becoming inquisitive and eager to learn, though still very slow to adopt. But it is this change of mental attitude, which is sure to bring about a rapid dissolution of village isolation.

DEFECTS OF THE LAND TENURE SYSTEM OF THE UNITED PROVINCES

BRIJ GOPAL BHATNAGAR, B. A.
AGRA COLLEGE, AGRA

For sometime past a controversy has been going on in these Provinces as to the relative importance of agricultural and manufacturing industries. The advocates of one or the other, in their treatment of the subject, have naturally emphasised the importance of the industry which they believe capable of bringing prosperity to India. But unfortunately their perfect silence on the other has led many to think that they do not realise its importance. Taking the peculiar significance of agriculture in India into account, we do not think that the advocates of manufacturing industries are not alive to the importance of agriculture. To us they seem simply to attach a greater importance to manufactures than the others do to agriculture. The difference then, in our opinion, is only one of degree, and both recognise the necessity of agricultural development.

Therefore the problem before us is—how to get rid of the famines, how to root out the growing indebtedness of the peasant, how to make him produce more

than he does at present, so that thus he may become rich prosperous, and happy.

The problem was recognised long ago by the Government, and they have, from time to time, made provisions to attain the end. But what we find is a peasantry going deeper and deeper into debt, produce falling in quantity and deteriorating in quality year after year. Now when one comes across this strange juxtaposition of good intentions and widespread poverty, he is naturally led to think of what is at the root of all this. Surely there must be something wrong with the agricultural organisation, constituted as it is,—in these provinces at least—of (1) Government, (2) the landlord, and (3) the ryot or tenant.

Some are of opinion that the system of land-tenure and land-assessment, in vogue in these provinces, “does not secure to the cultivator full fruits of his labour,” and that his rent is increased for no just or sufficient reason. But these people offer only a destructive criticism of the present state of affairs, and do not put forward any constructive scheme of their own. If we were to look into the legal provisions we would find that neither the law fails to provide for continuity of occupation of a piece of land nor does it allow enhancement without sufficient cause. As a matter of fact it does not err here, it errs elsewhere to be pointed out at a later stage.

Others like Mr. J. E. O'Connor are of opinion that, “the state demand is too high and that it should be reduced by one-third of what it is at present, care being taken that this benefit would go to the actual tiller of the soil.”

Yet others, who seem to be the admirers of the zemindars, say that all the present evils would disappear, if only the Government were to stop the practice of periodical revenue revisions, as they have done

in Bengal. Taking these views one by one we will see how much weight is in each of them.

The system of land-tenure is indeed defective, but the defect does not lie there, where it fails to provide permanent possession of a piece of land to the cultivators at large. In general the occupancy-tenants are better off than the tenants-at-will. But this right has in itself the canker of its slow destruction. Let me explain by a concrete example: In a village, there was a ryot, who had about $18\frac{1}{2}$ *bighas* of occupancy land. He owned his own *jowara* (one *hal* and two bullocks). He used to sow his own seed, to provide his manure, and could maintain himself year in and year out without going to the mahajan. He died some years ago. His three sons divided the occupancy land between them. Each had to provide his own live-stock and other agricultural capital. The money left by their father, though sufficient to keep and provide for one independent ryot, could not provide for three independent ryots; the result was that all the three had to take some help from the mahajan. Besides each of them took some land as tenants-at-will; because a plot of six *bighas* is not sufficient to keep occupied one *hal*.

Their present condition is that they sow their seed from the mahajan and are in debt. How can this be explained? They are using the same old methods as did their father; everything is exactly the same. Some might reason out that it is due to their cultivating a part of their land as tenants-at-will. But this cannot be, because we find many a tenant-at-will as prosperous as was this occupancy tenant. Secondly we find that the sons of occupancy tenants in general, who split up into independent ryots, become indebted and poorer and poorer every year. The explanation is to be found then, in the equal sharing system.

not only reduces a compact holding into many of uneconomic sizes, but also compels each of the co-sharers to become ryots, and thus to contract debts. If the field as a whole, with all the agricultural capital had passed on to only one of the sons, we would have had at least one prosperous farmer; and one prosperous farmer is far better than three indebted ones. Thus we see that occupancy right, with the power of drawing debts upon its security, and with the system of equal sharing, tends to check progress by reducing holdings below the economic minimum and so forces the cultivators to contract debts.

Therefore, if it is considered expedient to grant occupancy rights to all tenants, then a provision should be made to the effect that the holding passes undivided to only one son, and that it is unattachable to the creditor's demands.

But the question before us is, will the mere grant of occupancy right prove sufficient "to turn sand into gold?" General opinion would say "Yes". But experience fails to support it; and we can realize the same result by making the long lease system universal and compulsory. Morison has pointed out that anything which will secure to the tenant a sufficiently long tenure will be just as efficient to provide the incentive as occupancy right; and I in my humble way subscribe to the above opinion. If we universalize this system we will have the same advantages as are expected from universal occupancy rights, and incidentally will get rid of the inherent disadvantages of the latter—(1) the equal sharing among the sons, and (2) the pledging of the land as security and the consequent indebtedness of the ryot.

Coming to the proposal of Mr. J. E. O'Connor, we would find in it more of philanthropy than of practicability. Besides, the statement as it appeared in *The*

Leader, is rather ambiguous, and admits of more than one interpretation. We will see this ambiguity later. Any way the peasant would gain nothing, if the Government were to reduce its demand by one-third of what it is at present. Of course, where the peasants hold direct from the Government, it would be of some advantage to them; but even there it will go a little way, if nothing is done to remove the ignorance, and the improvident habits of the cultivators. But in these provinces, where the zemindars are recognized, there is less chance of the advantage going to the benefit of the tiller.

In the absence of any definite way, pointed out by Mr. J. E. O'Connor, of realizing the desired end, we are obliged to give the only possible ways, in our opinion, of realizing the end in view. There are two possible ways:—one is that each year the Government after collecting its dues at the present rate of revenue-assessment, should give back $\frac{1}{3}$ of them to the cultivators; apportioning it in such a way that each receives in proportion to the rent he pays to the zemindar. The other way to secure this would be a notification to the effect that “as the Government do not propose to take so much of the land-revenue, the tillers should not pay the amount to the zemindars”. Now if the Government were to leave the present system of enhancements and ejectments intact, they will have to call the tillers twice every year, if they adopt the one; or they will have to issue *parchai muafi* twice every year, if they were to adopt the other.

However, if any of these methods be adopted, we may be sure that the zemindars will use indirect means to secure the Government *muafi* to themselves—if not all, then in part at least. They have great power over the poor cultivators, and it will be difficult

for the cultivators to keep all of the reduction for themselves. Unscrupulous zemindars, and parasitic patwaries and kanungoes, will share the *muafi* between themselves, as they do at present in the years of scarcity when Government forego a part of their claims. Facts are facts and we should not ignore them. Besides it will add much to the work of the already overworked revenue officers.

When we come to the view of a universal permanent settlement, we find it unscientific and unjust. There is no necessity for a permanent settlement, if the revisions are made after sufficiently long intervals of say forty or fifty years, and if the zemindars are not compelled, at the time of revisions, to sue their tenants for the increase of rents, as was lately done (so we hear at least) in the Fatehpur District of these Provinces. It is only legitimate that the Government should share with the zemindars the profits of the general progress independent of their efforts. If the income from land revenue were not to keep pace (as would be the case if permanent settlement were made in these Provinces) with the increase of general expenditure (which is bound to take place with the general progress of society), persons other than the zemindars will have to suffer for that, and that does not seem to satisfy the canon of equity.

Thus we see that so far no practical method of ameliorating the condition of the ryot has been put forward. Now let us suppose for the sake of argument, that the Government adopts either an universal occupancy system, with compact holdings of economic sizes, unattachable to the creditor's demand, and indivisible between the heirs; or the compulsory long lease system, shall we attain our object? Perhaps not, because these in themselves, in our

opinion, are not enough to provide against the ignorance, the improvident habits and the backward methods of the cultivator.

Somebody might here pertinently remark that the Government have provided against all these by passing the Co-operative Credit Societies Acts of 1904 and 1912. But here we have to bear in mind that, although the provision is made, nothing has been done to secure its speedy and general adoption. It is perhaps the slow march of the movement which has led men like the Hon'ble Mr. Wacha to consider it as unadapted to the climate of India. He considers the movement as a mere "palliative" and "a failure." According to him "Agricultural Banks are our only salvation." He says—"Agricultural Banks are their [the Indian ryots'] only salvation; and here we shall now point out how a single Agricultural Bank, established in Egypt, has achieved the most satisfactory results, beneficial to the fellaheen and gratifying to the state. The condition of the Egyptian cultivator is analogous to that of the Indian in many respects; if at all, according to the official reports, a trifle worse."¹ "These banks alone can bring the ryots amelioration."

Although the honourable gentleman pronounces the co-operative credit societies "a failure," he fails to show anything inherent in their constitution and nature not suitable to the Indian conditions. He does not enter into their "merits or demerits," but passes an absolute judgment upon the movement as bound to fail. The only reason assigned is that the Indian ryot has no spirit of co-operation; though if we care to examine the village life closely, we would find many inherent elements of co-operation in the village organisation. However we cannot enter into the discussion here.

¹ *Indian Journal of Economics*, Vol. I., pp. 27-8.

With equal absoluteness it is suggested that we should have agricultural banks;—and why? Because, in his opinion, they have succeeded admirably in Egypt, where conditions are analogous to India. But here one might say that co-operative credit societies have been an admirable success in Germany, Switzerland, and America, where conditions are in many respects analogous to India. If analogy were the only test, we have a greater weight on the side of co-operative credit societies. Besides there is something in the constitution of the agricultural banks which does not seem to be very suitable to the Indian conditions.

On the one hand these banks would require a very large amount of money, which we do not think India will be able to supply with ease; on the other they will require men of financial experience, conversant with the needs of the agriculturalists, with all prudence, and the highest commercial probity, for their management. Both of these will have to be imported from abroad, and that would add to our already overheavy burden of out-goings.

Co-operative credit societies on the other hand are small things, capable of being managed by local ability and local capital, with some help from outside. We have to admit that they have not made a very rapid progress; their march has been slow, but steady. It is not because there is something wrong with their constitution, that they are not moving quickly; but it is because of the absence of enterprising and sympathetic men like Raiffeisen, who would have popularised the movement, that it is so. Peasants are not intelligent enough to understand the merit of these societies, and therefore do not care to have them. To speak the truth, not only the peasants, but most of the zemindars do not know what a co-operative society is, what are its advantages, and how to organize it.

The mistake of the Government does not seem to be in failing to provide agricultural banks, but in failing to make sufficient arrangements for the popularization of the movement of co-operation. There should be some such agency as may educate the zemindars and the ryots in the objects, advantages, and the methods of organization of these societies.

Then what is wanted at present is, not "courage and enterprise among Indian capitalists themselves in each province to start these Banks," but courage and enterprise in patriotic Indians and zemindars to popularise and help the organization of the co-operative credit and other societies. When we obtain men of the Raiffeisen type our difficulty will be more than half solved.

Thus we see that the Government have, to a certain extent, failed to realize their good intentions, and are partly responsible for that failure. But we would find somebody else in this trio-partnership of land, who seems to do nothing, but to collect rent and give 40 or 45 per cent of it to the Government. These are what may be called the parasites of the state; these are the men who, I believe, are responsible for the poverty of the cultivator. Unless the zemindar be roused to his sense of duty, unless his ignorance and lethargy of disposition be removed, no method of land-tenure, no legal enactment will ever secure an improved cultivation, and a prosperous and happy cultivator. In these Provinces at least, where he is recognized, and regularly paid, he should be made to do his share of the work. He should by practical work on his farm show the advantages of improved appliances, and educate the ryot in their use. He should play the part of Raiffeisen in his village society, and do everything in his power to organize and establish a co-operative society. There is no need of adding

to the cost of Government by providing special agents for this useful work, when there sleeps this well paid partner of the agricultural industry. With the advent of a regular Government, a well organised police, his office of the protector, the leader in war, is gone; he should now be an advisor of the ignorant ryot, a connecting link between the quick world outside and the hum-drum life of the village within. The Government should make such legal provisions as to compel this worthy to be active and alert, if it is at all anxious to ameliorate the condition of the ryot.

In this way alone can we secure the much desired prosperity to the ryot; no other way seems to be so handy, so economic, and at the same time so practicable, at least in these Provinces.

Here again, might I digress a little to point out a thing which is likely to undermine this work of the zemindars, and which has, to a certain extent, undermined it in the past. The system of equal sharing among the heirs, is here as elsewhere, reducing zemindaries to uneconomic sizes, with the result that all the zemindars who have not land enough to support themselves, leave their estates to be managed by *karindas* (agents), and betake themselves to other walks of life, and fail to attend to their natural work. This causes a national loss. Therefore, to provide against this tendency, the law of primogeniture should be applied to estates which have not been reduced to less than one whole village, and the zemindars should not be allowed to engage in other pursuits, which may be calculated to take their whole time, and leave nothing for the development of their estates.

To sum up then the only practical way, in these Provinces, of giving prosperity to the ryot is not either in throwing alms, at every harvest, from the land revenue, as is suggested by Mr. O'Connor or by

simply giving occupancy rights to all the cultivators, or by granting permanent settlement to the zemindars; but in our opinion it is to be found in something else. While conferring the occupancy rights, or better still the universal long lease system, the zemindar should also be made to take interest in his work. To secure this he should be made master of at least so much land as may keep him up, and not be made subject to a law which must bring him in the long run to the position of a small proprietary cultivator, as the present system of equal sharing is tending to do. Then some means should be devised and adopted to educate the zemindars in the ways of agriculture; their education should be such as may create in them an interest for their work and for their tenant's welfare. They should be compelled to undergo the training, and also be compelled to give long leases, if universal occupancy right be not granted (which we do not think is at all necessary), and they should provide for experiment and illustration. If such were the system adopted we should find India, not long after, a land of prosperity and of happiness.

THE B. A. ECONOMICS COURSES IN THE UNIVERSITY OF THE PUNJAB¹

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UNIVERSITY, 1915-16

Under the present examination system, the practice has apparently grown up of making a complete separation between general economic principles and the application of these to Indian conditions. In the regulations of the B. A. examination of the Punjab University the work in Economics is set out thus:—

Economics.—Two written papers of three-hours each.

Paper A.—Political Economy.

Paper B.—Application of Economic Principles to Indian Topics.

But in the Appendix (page 308) Paper B appears as follows:—

Indian Economics.—General applicability of Western doctrines. Agriculture in India. The Industries of India. The Forests of India. The Road and Railway Systems of India. The India Currency and Note Issue. Imports and Exports. Indian Taxation with particular reference to the sources of revenue. The Land Revenue. Home Payments. Irrigation. Famine and famine relief. Co-operation.

To my mind this does not fully carry out the idea of the regulations. The application of economic

¹This note was prepared by Professor Todd early in 1916, for private circulation after a conference on the teaching of economics and we are glad to reprint it with his permission as it contains many suggestions of permanent value. His proposals have since been to a great extent adopted by the Punjab University.

principles to Indian conditions, instead of being, as it ought to be, the whole sum and substance of the course, is relegated to a corner of one paper. It is true that the Board of Economic Studies recommended that the wording of the Appendix should be amended as follows:—

Paper B.—Application of economic principles to Indian Topics. Study of economic conditions of India relating to Agriculture, including Forests and Irrigation; Industries; Communications; Commerce and Trade. Currency, Finance and Banking. Taxation, Revenues and Home Payments. Famine and plans of famine relief. Co-operative Credit. Prices and Wages. Systems of Land Tenure.

And this would certainly express more accurately the essential idea of the object of the paper, which is to teach the students to apply their knowledge of European economic principles to their own life. It seems to me, however, that this does not altogether avoid the danger of the students learning economic principles *for paper A* out of English or American text-books with foreign illustrations, and entirely failing to see that these principles must be applicable to Indian conditions, if their study is to be of any use to them as Indian students at all. What is to be avoided at all costs, is the principle of treating 'Economics' and 'Indian Economics' as separate subjects.

As a matter of fact, I cannot help feeling that that is how they have, in practice, been regarded. As far as I can find out, 'Economics' is generally taken in the first year and 'Indian Economics' in the second year; and at a conference of teachers held here in December last, all the teachers admitted that they found it necessary to adopt this practice. They were also unanimous in saying that the interest of the students only began to be aroused in the second year, and that a great deal of time was then wasted in going back over the ground covered in the

first year, to make sure that the students had not forgotten what they had learnt of Economic principles in the first year before going on to deal with the application of these principles to Indian conditions in the second year. Not only so, but the students were frankly impatient of this revisal, taking up the attitude that they had finished all that, and wanted to get on to the Indian Economics.

On turning to the examination papers, I find too much evidence that the same principle of separation of the two subjects has been adopted. There is hardly ever a question in Paper A which raises directly the problem of the application to Indian conditions, while, on the other hand, there are many of the questions in paper B which could be answered by any one well versed in Indian Administration, but without any knowledge of economics at all.

It seems to me that such methods of teaching economics in India are utterly fatal to the usefulness of the subject. Economics is the "science of everyday life" and, although it has naturally grown up in English garb, it is quite a mistake to suppose that its principles are true only under English conditions. If it were so, it would be waste of time to teach the subject in an Indian University at all, for the intellectual value of the study, as a piece of mental training, is very doubtful. Certainly one can hardly imagine a duller or more difficult task for an Indian student, utterly unfamiliar with English industrial conditions, who has perhaps never seen a factory, and has only the most rudimentary ideas of what a steam engine is, than to try to cram up such questions as the economics of large production under the English factory system.

In my view, therefore, some change in the Calendar is necessary to make it absolutely clear to the teachers

of the Province, who are preparing students for the examination, that the *whole* of the examination, and not merely Paper B, will be directed to *testing the candidate's power of applying what he has learnt to actual life in India*. The note which I suggested on the syllabus for Paper A would, I think, have met this need well enough; but had the matter been in my hands to deal with *ab initio*, I would rather have framed an entirely new syllabus covering both papers A and B, based on the principle of dividing the subject not into 'Economics' and 'Indian Economics', but according to some logical system of division of the whole subject, each question being taken in turn and including (1) The general principles of Economics applicable thereto and (2) The application to Indian conditions. I need hardly point out that my sole object in suggesting the change is to give greater importance and more time to the Indian side of economic teaching. I believe that most of the teachers in the Province have been doing their best in actual teaching to follow out just the idea that I want emphasized, *viz.*, that the teaching must be practical and must be on the lines of Indian conditions, but they have been hampered by the necessity of working on the lines of the examination. I am convinced that by the method of interpolating the application to Indian conditions throughout the whole syllabus, not only would much more time and attention be given to Indian economic problems but the work done upon them would be much more efficient and practically useful to the students.

In order to test the opinion of the teachers of the Province on the question, I drafted a rough syllabus of this kind and submitted it to the Conference above mentioned, and after a very full discussion they decided, by a vote of seven to three, to recommend

the adoption of the principle of a combined paper and to ask the Board of Studies to prepare a syllabus on these lines. They seemed to be practically unanimous that this method of teaching would not only be more efficient, but would also be very much more interesting and, in the long run, easier for the students, as well as for themselves as teachers.

It may be argued that the teachers and students will have difficulty in working for such an examination, because there are no text-books from which the subject can be learned in that way. But that in itself is almost a good thing. There are plenty of text-books from which the general principles of Western economics can be learnt. There are plenty of sources from which all the facts of Indian administration and Indian conditions in economic affairs can be learnt. But the application of economic principles to Indian conditions never can be, and never should be, learnt from text-books.

The main object of the science is to teach the students to think for themselves and to see things in their own life through economic spectacles. The object of a University training in economics is simply to provide these spectacles, and to inspire the student with the desire to use them not merely till he passes his examination, but all through his life.

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CURRENT NOTES

The publication of this number having been delayed until March, we have the opportunity of noticing the Budget and the Great War Loan. Sir William Meyer in his Financial Statement first reviewed the actual receipts and expenditure of 1916-17, and then explained the revised estimate for the current financial year based on actuals to the end of January, 1917. It was good news that we may expect an Imperial surplus £5,738,000 as against the originally estimated surplus of £826,000, besides an improvement in the Provincial balances to the extent of nearly £2,000,000. The total gain of revenue is put at over £9-millions, and there have been increases under most of the principal heads, customs, salt and opium accounting for about £800,000 each. Most of the huge surplus, however, is to be accounted for by increased profits of the commercial services, the net receipts of the railways alone being estimated at £4,026,000 above the initial figure. The railways have benefitted much from the huge traffic in carrying coal overland to Bombay and Karachi, due to absence of coastal shipping, and from the conveyance of troops and military stores. On the other hand the expenditure has increased by nearly £4,000,000, almost entirely

for the military and political services, the state of affairs in Persia being responsible for the increased cost of the latter.

With this big surplus in hand it may seem strange that the Finance Member had to propose fresh taxation estimated to yield £3,350,000; but there are exceptional circumstances which demand it. In the first place there is the splendid gift of £100,000,000 to the Home Government for war expenditure to be financed. The income charge caused by this, partly as interest and sinking fund on the Indian loan, and partly in service of some portion of the British loan, will amount to £6,000,000 per annum, and would take the whole of the 1916-17 Imperial surplus. In the second place, the enormous railway earnings of the year just closing must be regarded partly as a windfall, the repetition of which cannot be counted on, whilst the gaunt spectre of famine and calls for Imperial grants in aid of relief, besides revenue remissions, always hovers before a Finance Member engaged in budgetting. As new taxation was necessary, therefore, a better choice could hardly have been made than the new taxes to be imposed. The increase of the duty on cotton piece-goods to $7\frac{1}{2}$ per cent whilst the excise duty is left at $3\frac{1}{2}$ per cent is deservedly popular as the first step in the removal of a political anomaly. From the economic point of view its effect will be to protect the Bombay Mills against the growing competition of Japanese and Chinese Mills in the coarser yarns, whilst it will levy a tax on a large class which buys Manchester cottons, but is not quite well enough off to pay income-tax, or perhaps escapes assessment. The other new taxes are also to be commended. There is a graduated super-tax on incomes above Rs. 50,000

per annum; the export duty on jute is doubled, and a small tax is imposed on railway goods traffic of one pie per maund on coal and two pies per maund on general merchandise, irrespective of distance. We trust the last mentioned tax will continue to be treated as purely a war tax as is now intended, because if any permanent increase of revenue were required from the railways, the proper course would be to levy a proportionate tax on all railway rates at, say, one or two per cent. As a result of this new taxation, Sir William Meyer anticipates an Imperial surplus in 1917-18 of £130,000, and a Provincial deficit of £98,000, leaving a net surplus of £32,000. Excluding unforeseen events, such as the failure of the monsoon, or any emergency expenditure for military purposes, it would seem that this estimate is likely to prove unduly conservative. It is proposed that the machinery for the assessment of income-tax shall be tightened up: and, as there is undoubtedly a considerable amount of evasion at the present time, we may expect some increase under the head of income-tax, even though commercial profits may on the whole be somewhat reduced.

The Great War Loan, which follows closely the lines of the British Loan issued some three months earlier, has many novel features, which ought to make it a very attractive investment. The Securities offered are of three kinds: (1) 5 per cent. Loan issued at 95, and redeemable at par from 1929 onwards after three months notice given in the *Gazette of India*, and to be entirely repaid in 1947. A sinking fund is to be created by setting aside annually a sum equal to 1½ per cent of the amount subscribed to the Loan in this class, which will be used to purchase the Loan in the

market for purposes of cancellation whenever the market price falls below 95. This security is not exempt from income-tax. (2) $5\frac{1}{2}$ -per-cent War Bonds repayable 15th of August 1920, and another class of these Bonds repayable on 15th August 1922. Interest on these Bonds will be exempt from income-tax, but not from super-tax. (3) Post-office Five-year Cash Certificates. These will give approximately $5\frac{1}{2}$ per cent compound interest. The prices at which they can be cashed at the Post-office are based upon an increasing rate of interest, as follows:—

		Rs. As.	Rate Per cent
Initial cost of certificate	...	7 12	...
Value end of First year	...	8 1	4.03
" " Second year	...	8 7	4.65
" " Third year	...	8 14	5.19
" " Fourth year	...	9 6	5.63
" " Fifth year	...	10 0	6.66

(Equivalent to compound interest at nearly $5\frac{1}{2}$ per cent on the whole period).

We are glad to note that the issue of these Post-office Certificates is intended to be a permanent feature in connection with Post-office Savings Bank business. We expect they will prove exceedingly popular, more especially, if the arrangements made for the safe-keeping of the Certificates on behalf of investors be revised in the light of experience.

In the country's finance and trade the course of events which we described in the *Current Notes* of the last issue of this *Journal* has continued uninterrupted up to the time of writing (early March, 1917) in the manner we anticipated. During November and December (1916) the balance of payments continued to grow increasingly in favor of India, and in the latter month the resources of the Government of India for

meeting further trade demands in London for remittances to India came suddenly very nearly to an end. After sales of Council Bills in London had averaged about 300 lakhs a week for several weeks, the Secretary of State could offer only 80 lakhs on December 20th, for the week, and 120 lakhs on December 27th, the intermediate sales being entirely suspended. This same figure (120 lakhs) has been offered at each weekly sale throughout January and February, 1917. The offer of this sum weekly is not nearly sufficient to meet the needs of the export trade, so that many merchants immediately suffered by experiencing a difficulty in getting payment for what they shipped, or desired to ship in fulfilment of orders. The normal procedure of exporters is to sell their bills to the Exchange Banks in Calcutta and Bombay; but these banks being able to obtain in London only a limited allotment of Government money in India, could only buy or discount an equally limited number of bills in India. The tendency, of course, was for exchange to rise to 1s. 5d. To avoid this the Secretary of State agreed to sell at a maximum of 1s. 4½d. for immediate Telegraphic Transfers, and the Exchange Banks combined in fixing and maintaining a corresponding maximum figure in India for sale of remittances by Telegraphic Transfers to London (1s. 4 $\frac{7}{32}$ d.), the exporters' bills being bought in Calcutta at a figure corresponding with this so as to give normal profits. This combination in opposition to the normal action of supply and demand involved a procedure which is, we believe, novel in foreign exchange transactions, the Calcutta Exchange banks undertaking to secure payment first for export firms making shipments for Government and war contracts, and refusing to buy the bills of exporters on private account except to the extent to which such exporters could produce "cover," i.e., pay

to the Exchange banks money to be remitted from India to London. Brokers are ready to sell "cover," and the price to be paid for it (and to be secured for it by the importer) is equivalent to a rise of the sterling value of the rupee above 1s. 4½d.

Several factors have combined to create this crisis in exchange. There is the general rise of prices in Europe which, as noted in our last number (p. 375) inevitably turns the balance of private trade in favor of India. An even stronger cause operating in the same direction has been the payments made by the British Government to the Government of India in London on account of the extra cost of the services of the Indian Army beyond the normal cost, and on account of supplies purchased in India. According to the statement of the Hon'ble the Finance Member, Indian War expenditure in 1916-17 recoverable from the British Government is now estimated at £38,500,000, which is greater than the whole trade demand for Councils, or at least so much of it as could be met, which is estimated at £33,000,000 for 1916-17. A third cause operating also to increase the balance in favor of India is the curtailment of imports by certain prohibitions of the Government of India, notably motor cars, and other prohibitions made by the British Government (notably manufactured foodstuffs, and a variety of other articles). Lack of accommodation to ship to India, high freight rates and realizations of insurance on sunk cargoes, have all operated in the same direction by reducing payments for imports relatively to payments for exports.

As the normal requirements of the Secretary of State are likely to be greatly exceeded in 1917-18 by the War expenditure of the Indian Army which England

has to refund, there is little prospect of Councils being available in London in any quantity approaching the requirements of India's export traders. The utmost assistance possible should be given to exporting firms whose business is thus unavoidably restricted, otherwise many of the smaller firms may soon find themselves in serious financial difficulties.

Remedies are not easily suggested. It may be asked, however, whether the Treasury balances, if their location were carefully overhauled, could not be safely reduced by two or three crores. A measure tending not merely to release in India existing funds on which the Secretary of State could draw, but to create them, would be the issue of one rupee notes, which Sir William Meyer stated was under consideration. The proposal has been received with general approval, and we only hope that it will be put into execution at an early date, and so avoid the wastefulness of further coinage. The present is the time for emergency measures, lest trading interests be irretrievably damaged. The supply of note forms may be a difficulty. We anticipate it will be so if the present style be adhered to; but this we should think inadvisable for two reasons. In the first place the rupee notes should be very clearly distinct from the five-rupee notes. In almost all other countries but India and England, notes are gaily coloured and decorated with attractive pictures and highly intricate and pleasing designs. Gold is valued mainly because of its beauty. Similarly, notes printed in bright colours and bearing the portraits of their Majesties the King-Emperor and Empress, and some design of palm trees, elephants or a familiar Indian scene, would be objects of interest having some direct utility, and not merely exchange utility, when

first received. There are some two or three firms in London which make bank-notes for many of the smaller countries of the world; and a competition might be invited for the most effective design. The size of the notes should not be more than five inches by three.

Startling developments in American railway engineering and operation are continually occurring, and the conversion of main line railways from steam to electrical working is the most noteworthy feature at present in execution or contemplation. A very interesting example, particulars of which we quote from the *Scientific American* of July 29th last is the electrical working of a section of the Chicago, Milwaukee and St. Paul R. R. main line, about 300 miles in length, where it traverses the Rocky mountains between Harlowton, Montana, and Avery in Idaho. The line crosses three ranges of mountains, and reaches an altitude of 6,350 feet above sea level. The maximum gradient is 1 in 50, and by using two electric locomotives, one as puller and another as pusher, a freight train of 2,500 tons is hauled at 16 miles per hour. This train is about three times the usual weight of freight and mineral trains in India; and is in accord with the policy of American railwaymen of reducing working costs by enormously increasing the trainloads on long distance hauls. But perhaps the most interesting feature of this particular electrification scheme is the apparatus for "regeneration" of current on down grades. Every train which is running downhill, instead of having its energy absorbed and wasted by applying brakes, performs the reverse operation of turning it into electric current which it supplies to the system of conductors from which current is taken when needed to drive the train.

Thus on the whole system, every train going downhill is a small moving power-station helping to supply the current which is moving other trains on the level or uphill. It is estimated that this saves approximately 15 per cent of the current which would otherwise have to be generated at the central power station. It may well be asked whether Kumaon and Kashmir could not be developed by electric railways worked on this principle. These not being main lines, much smaller train loads would suffice, and gradients as high as 1 in 30 could be used here and there. The Indian Companies working main lines which cross the Ghats and Vindhyan Ranges might well investigate the adoption of this "regeneration" system of electric traction on their own main lines, particularly within three hundred miles west and south-west of Bombay.

In the same number of the *Scientific American* is an article on the *rating* of farm tractors—that is to say, on determining their effective horse-power—in which illustrations of a large number of such tractors are given. In America these tractors are already beginning to introduce a revolution in methods of cultivation; and the fact that they are applicable also to Indian conditions, wherever the land tenure system admits of large-scale farming, has already been proved by Professor Sam Higginbottom on the farm belonging to the Agricultural Department of the Ewing Christian College, Allahabad. Use is being made there of a tractor lately given to the College by Mrs. C. H. McCormick of Chicago. When used as a tractor it pulls up to 15 horse-power; and when used as a stationary engine it delivers 30 horse-power to the belt. The engine is started on petrol, but runs on kerosene as soon as it gets warm, and the cost of fuel oil is under two

rupees per working hour. The tractor has three speeds, and it can be driven either forwards or backwards. It pulls a three-gang plough, each plough going from 6 to 10 inches deep and turning a furrow 14 inches wide. Thus the total furrow made each time the tractor goes forwards is 42 inches wide. Following the plough comes a double disc harrow, following it a spring-tooth harrow and a weeder, and were it the time for seeding, a seed drill could also be attached, so that each time the tractor goes forward a strip of land 42" wide is ploughed, harrowed, weeded, and sown. An acre per hour can thus be prepared, at a total cost, including depreciation, of about Rs. 4-8 per acre. When not used for cultivation, the tractor is taken over to the silage cutter and over 200 maunds per hour can be cut. It will also be used for threshing, grinding and pumping. Thus the capital invested in it is seldom lying idle. When not working it is, of course, not consuming feed. We may add that through the advice of Professor Higginbottom a number of these tractors, of a somewhat smaller size, are being supplied to zemindaris in Gwalior.

A letter brings us some interesting information regarding the courses of instruction at the University of Hong-Kong. The Economics Department there is in charge of Professor W. J. Hinton, who graduated at the University of Wales, and studied also at Oxford. He has had a free hand to model the instruction in his department to the wants of Chinese students, and also, one may add, to suit the needs of the big commercial houses of Hong-Kong. The courses are so arranged as to give the whole Faculty of Arts a strong bias in the direction of economics and commercial studies. Economic theory is supplemented by descriptive economics and commercial geography, interpreted

in a wide sense, to which great importance it attached. Such subjects as currency, banking, and methods of industrial remuneration, are studied with special reference throughout to Chinese conditions. The students take economic and constitutional history, and they are encouraged to take the course in business practice and accounting which is given by a professional accountant. This course includes practical work in a model bank, a model merchant's office, and a model shipping office. Later the students have a course on public finance and administration, and some of them go into Government offices for a few months practice. It appears that work of this kind is regarded as the normal course of instruction for B.A. students in Hong-Kong. In our view the scheme is altogether admirable, and there can be no doubt that something of the same kind would meet the needs of India.

We have received a number of requests and suggestions that the price and rate of subscription of this *Journal* should be reduced. As a matter of fact the price is somewhat lower than that usual for scientific publications in other countries. The *Economic Journal* costs 20s. (Rs. 15) per annum, the *Journal of the Royal Statistical Society* (20s.) the *Quarterly Journal of Economics* \$3-50, and the *American Economic Review* \$5, or Rs. 15. The price of the *Indian Journal of Economics* was fixed by a committee of the University Syndicate after mature deliberation. The University has no desire to make a profit out of the *Journal*; but on the other hand, if the *Journal* is to become a permanent institution, it cannot take the risk of its not reaching a self-supporting basis. The first consideration was that quality should under no circumstances be sacrificed to price; hence, how

ever expensive the reproduction of the tables, maps, diagrams or photographs which may be required to illustrate certain articles may prove, they will be included without hesitation. It is hoped also that the size of the *Journal* will gradually increase; which consideration, taken in conjunction with the rapid rise in the cost of paper, and the probable general permanent increase in the cost of printing, makes it necessary to follow a cautious policy. Undoubtedly the *Journal* is too expensive for many college students to subscribe to individually; but they can press for its inclusion in the periodicals taken by their College and Union or Hostel Libraries, and by the public Libraries of the large towns.

Professors of Economics in India have not been behind any class in the community in their desire to serve their country in the field, for at least four had joined the Indian Army Reserve of Officers before the end of 1915. We regret having to record that one of them, Professor S. G. Mellis Smith, of the Canning College, Lucknow, was killed in action on February 11th, 1917, during the advance in Mesopotamia. He was at the time attached to the Gurkha Rifles as second Lieutenant; and we understand that he had been twice wounded and returned to duty during the campaign in which he finally met his death. It is proposed to place some Memorial of Mr. Mellis Smith in the Canning College, and all who knew him and wish to join may obtain particulars of the Principal. A subscription list will be kept open in the College until the end of August.

REVIEWS OF BOOKS

RELATING TO INDIA

Co-operation: Comparative Studies and the Central Provinces System—By H. R. CROSTHWAITE. Calcutta: Thacker, Spink & Co., for the Central Provinces Federation of Co-operative Banks. 1916. pp. 542. Price Rs. 6.

Mr. Crosthwaite divides his book into four parts. In the first part he seeks to give his readers certain historical facts, a knowledge of which he thinks to be necessary for properly understanding the meaning and importance of the co-operative movement in India—specially in the Central Provinces. He shows how the Central Provinces have evolved out of an unexplored country and how the consolidation of British power has smoothed the path of internal progress and has given birth to ideas which alone can ensure the success of a genuine co-operative movement.

The first two chapters in the second part are devoted to a series of short studies describing the co-operative systems and achievements in other countries—notably in Germany, Great Britain and Japan. Mr. Crosthwaite's description of the co-operative movement in Japan and the social work that is being done there (pp. 126-42) will be read with great interest and profit by all co-operators and social workers. In Chapter III the author brings out the overwhelming importance of agriculture in the Central Provinces and declares that "agriculture is the keystone of the economic development of the Provinces." It is his deliberate opinion "that before there can be any real demand for advanced forms of industrial co-operation in the Central Provinces and Berar, the country must proceed much further along the path of social, educational, co-operative and

commercial progress. Any attempt to prop up decaying industries, that is to say, industries the products of which are being pushed out of the market by better, cheaper and more popular articles, by means of co-operative credit, is doomed to failure." We think that there is great truth in these remarks and we believe with the author that before an improved agriculture develops the purchasing power of the people, the cottage industries cannot make any sustained progress in the future. "Meanwhile, a great deal can be done for selected individual artisans and traders and other classes as well by means of suitable organizations for the provision of reasonable credit."

He then describes the German and Italian models and pronounces the People's Banks to be the best for industries. In the chapter on "Co-operation in Agriculture" the author advocates the formation of agricultural supply societies and then proceeds to describe the organization and functions of Co-operative Dairy Societies, Milk-selling Societies, Granary Societies, and Cattle Insurance Societies. As regards the last type of Societies Mr. Crosthwaite rightly insists on the need of accurate statistics and tables of mortality and of small beginnings in untried areas. Co-operators would do well to remember the three principles laid down by Mr. Crosthwaite for the success of co-operative stores—

- (i) The members must make known their wants to the store;
- (ii) They must satisfy their wants from the store;
- (iii) They must control those who attend to their wants in the store.

The third part of the book deals principally with the system employed so successfully in the Central Provinces and describes in detail the various units in the co-operative structure of these Provinces, beginning with the primary societies and working up through the circle Unions of primary societies and Central Banks to the Provincial Bank which is at the head of all. The annotations and explanations of the model bye-laws for the Primary Co-operative Credit Society, the Circle Union of Primary Societies and the Provincial Co-operative Bank are all the fruits of ripe experience and will prove invaluable for practical co-operators. The chapter on Central Banks is particularly worthy of serious study: it opens with the following instructive lines—

"A Co-operative Central Bank is not merely a link in the financial chain which connects the primary society with the open money-market, but it is an institution intended to spread and foster co-operative knowledge and practice." We agree with Mr. Crosthwaite in holding that the greatest care must be taken to avoid making the Central Banks the subject of experimental measures. It is perfectly legitimate, however, that the Central Bank should, acting on behalf of its societies, become "a base for the concentration of purchase and the distribution of supplies."

The remaining portion of the third part deals with the Provincial Co-operative Bank and the Central Provinces Federation of Co-operative Banks. This latter institution is "an institute of banks and not a banking institution." It is an entirely novel institution in India, and its progress and activities will be watched with deep interest. We would draw the reader's attention to pp. 343-51 of the book describing the constitution of this "Parliament of the co-operative organization." The last chapter of the third part describes the co-operative organization at present outside the Federation Circle. The fourth and last part of the book contains practical details about Accounts, Procedure, Audit, Periodical returns, etc.

From the above brief account it will be evident to the reader how wide and comprehensive is the scope of this valuable work. Though the volume is specially meant for the Central Provinces, it will be equally useful to all advanced students of co-operation both for purposes of study and reference.

P. MUKERJI

Town Planning in Lucknow: A Report to the Municipal Council. By PROFESSOR GEDDES. Lucknow. 1916. pp. 56.

In his Introduction, Professor Geddes calls this a "Report towards Town Planning" in Lucknow. It does not contain the new plans prepared in accordance with his advice, but is a review of the whole problem of the town planning of the city, and a compendium of proposals and suggestions for improving different parts of the city in different ways. "Every section of the report", writes Professor Geddes, "has been prepared in course of detailed (and usually repeated) survey and study upon the ground more than in the office. In the latter the observations made in the field, the modifications

suggested, or the fresh schemes devised have been set down on plans and tested to scale, criticised, and this from many points of view and consequently improved or altered. Thereafter they have been tested in the field again, and with further good results, of improvements and economies in detail before final preparation of sketches for the draftsman in the office". There follows an interesting description of the Professor's practical method of working on the plans; a few words about the city survey maps showing density of population, occupations, religious groupings and disease statistics and on the photographic survey which is in progress.

The report itself deals first with communications, the alterations proposed in the streets, construction of new sanitary roads, and re-arrangement of road junctions. The next section deals with proposals for relieving the pressure upon the narrow and busy Chowk, the central and historic thoroughfare of old Lucknow, by opening up communications parallel with it which can be done at a comparatively small expense by joining up blind alleys. Professor Geddes' method evidently is not a wholesale cutting of new streets through overcrowded quarters. This he regards as unnecessarily wasteful, except in directions requiring big traffic roads. Otherwise his policy is to widen existing roads locally, to enlarge turnings, and to make minor open spaces by removing two or three houses here and there, choosing especially for removal those which are old and tumbled down. The next chapter deals with local improvements in housing schemes. It is one of the beneficial results of the catastrophic flood which visited Lucknow in 1915 that it has made much re-building necessary. Particularly noteworthy is the new model village Barulia for housing people of the artizan and coolie class; and the Municipality can be congratulated on having made it a model garden village. It is, indeed, worth a visit by all interested in the housing question. The following chapters deal with minor parks, public gardens and open spaces. Lucknow abounds in these; and indeed its population is more spread out than that of almost any other city in the world of equal size. In spite of this, there are some overcrowded quarters. Much ground is still covered by the ruins of houses brought down by the tornado which caused the flood; but perhaps the main reason for the low density of population is because the popu-

lation of Lucknow has declined so much during the past century. In one place Professor Geddes rescued a tank which was to have been filled up in accordance with the crusade of the modern sanitarians. The tank was cleaned, its banks repaired and beautified, its water stocked with the kinds of fish which live on mosquito larvæ, and we have a source of daily health and pleasure to the community. Besides, as Professor Geddes points out, a fish tank in private grounds pays a rental from two to three times as much as the best paddy land, or even more. In the section on sanitation also there appear to us to be many useful suggestions.

Professor Geddes is a man of wide and deep learning and of brilliant imagination. With these qualities he combines a power of grasping details and a patience of application which enable him to work out to advantage the most economic methods of achieving the big schemes of improvement he has in view. We like his frank, and sometimes drastic expression of opinion on the improvements effected or proposed by the former Municipal Officers. He expresses appreciation or censure, as the case merits, in terms which no one can mistake. Town Planning is absolutely in its infancy in India and there are few subjects of greater social importance. Our towns must be put in order and prepared for the growth of population which will ensue when the industrial revolution seriously begins. It would be a national disaster if a great industrial population were to flock into Indian towns in their present insanitary and congested condition. The problem should be tackled now while there is time and before the values of land and house property have risen to an artificial scarcity-level.

Progress and Problems of Industrial India.—By S. A. AMBRAVANESWAR. Trichinopoly: Published by the Author. 1917. pp. 30.

The author says on the very first page of his pamphlet "the economics of India require careful investigation and cannot be fathomed by generalizations". And yet, curiously enough, his own treatment of the subject is characterised throughout by vague generalizations. The author presents in an interesting manner, the main outlines of our industrial problems and he advocates a protectionist policy for India.

REVIEWS OF BOOKS

ENGLISH AND AMERICAN

The Nature and Purpose of the Measurement of Social Phenomena. By A. L. BOWLEY, Sc. D. London: P. S. King, 1915. pp. viii, 241. Price 3s. 6d. net.

The Elements of Statistical Method. By W. I. KING, M.A., Instructor in Statistics in the University of Wisconsin. New York: The Macmillan Company. 1915. pp. xvi, 250. Price 6s. 6d. net.

It is frequently asserted that Statistics, dealing as it does with figures, is a dull and uninteresting subject. This false impression arises partly from a misconception as to what constitutes the subject matter of its study and partly from the highly mathematical character of a portion of it. Dr. Bowley's latest work soon removes any such ideas which the reader may previously have held. It is true it treats of but one portion of the subject, *viz.*, the statistical concept of a nation—nevertheless, it is sufficient to show that at any rate part of the study of statistics is of an extremely interesting character and can be appreciated by any educated person. Dr. Bowley also removes another false impression, *viz.*, that statisticians deal with figures as such and do not consider the human beings, etc., both individually and collectively, for which the facts stand. To quote the author's own words, "We ought to realize that measurement is a means to an end; it is only a childish mind that delights in numbers for their own sake. On the one side, measurement should result in accurate and comprehensible description, that makes possible the visualization of complex phenomena; on the other, it is necessary to the practical reformer, that he may know the magnitude of the problem before him, and make his plans on an adequate scale".

Hence social workers and all those interested in the social problem are indebted to any one who shows how such measurements of social phenomena can be made accurately and scientifically.

A short and "barbarous" name for the subject matter of the work would be Modern Statistical Sociology. Dr. Bowley first shows several ways in which a nation may be defined and points out pitfalls for the unwary. It is in this, the opening chapter, that the analysis which is made of the nation immediately impresses the reader of the need for carefully framed definitions if statistics of any utility to the social worker, legislator, economist, etc., are to be compiled. This is a fact that is constantly overlooked by others than trained statisticians, and it is this oversight which has given rise to the popular *dictum* that "statistics can prove anything."

Dr. Bowley next proceeds to show how the members of a nation may be classified by placing them in order of economic prosperity. He further suggests that detailed descriptions might be given of individuals or families selected in one of two ways, either by the method of percentiles, that is, when the individual or family occupies a definite numerical position in the economic scale, or by taking typical classes that could be adequately described.

Other chapters deal with family income, production and consumption and the standard of living. The last named forms the most interesting chapter in the book. After describing the various methods adopted by Rowntree and others to measure the standard of living, the author makes some useful suggestions as to how these methods may be extended.

The analysis is carried out in a masterly manner and is supplemented by valuable suggestions. It might be said that the book contains much that is to be found in the many writings of Dr. Bowley, yet it contains more that is new—not only new, but original. It is for this reason that it should find a place on the bookshelf of every social worker.

Mr. King's work is of a quite different character to the one described above. It is a text-book, pure and simple, designed primarily for the American student. For some time such a text-book has been wanted in America and Mr. King has met the demand in an admirable little work. Suitable

as the work is for the American student, it is on this account of less value in India. The examples are almost entirely borrowed from American statistics and several terms employed by the author are seldom if ever used by English statisticians. Except in this respect the work cannot be said to be original, for it is largely based upon the writings of Bowley, Yule, Bertillon and Meitzen. The form of presentation is attractive; and supplying as it does a long felt want, the book should command the large sale which it undoubtedly merits.

Engineering Economics. By JOHN C. L. FISH, Member American Society of Civil Engineers, etc., New York: MCGRAW-HILL BOOK COMPANY, INC. 1915. pp. xii, 217.

Both the engineer and the manufacturer are constantly faced with problems which have an economic aspect. For the engineer the correct solution of a problem such as bridging a river, is not at every time and place mechanically the same. He must take account of the costs of materials and labour, fluctuation of prices, the rate of interest estimated to run during the period of construction, and a number of other factors of a financial economic character. The economic principles relating to interest on capital invested during the period of construction, to depreciation and sinking funds are stated by the author of this book with great clearness and considerable detail. Very important chapters are those on "Elements of the yearly cost of service"; on "Estimating"; and on the "Procedure for economic selection." In the next chapter are a number of examples of most interesting cases of economic selection, such as finding the economic size of a pipe-line for delivery of water; and the value of saving one mile of pipe-line. The book may be strongly recommended to engineers, who ought to know more than they usually do of the economic principles of their work; and to students of economics who by coming into contact, through such a book, with the actual business problems of constructive engineering work will find that their economic knowledge thereby gains greater precision and reality.

LIST OF JOURNALS

RECEIVED IN EXCHANGE

The following Journals and Periodicals are received in exchange for this Journal:—

ANNUAL—

Financial and Economic Annual of Japan.

QUARTERLY—

Economic Journal (London).

Journal of the Royal Statistical Society.

Quarterly Journal of Economics.

Political Science Quarterly.

American Economic Review.

The Agricultural Journal of India.

Bulletin of the Imperial Institute.

MONTHLY—

The Journal of Political Economy, Chicago.

The Hindustan Review.

The Mysore Economic Journal.

Wealth of India.

Local Self-Government Gazette, Madras.

La Riforma Sociale.

WEEKLY—

Capital.

Commerce.

Social Reform Advocate.

Indian Trade Journal.

MISCELLANEOUS—

Bulletins of the U.S.A. Labor Bureau.

N. S. W. Government Publications.

Reports of Co-operative Societies and other documents.

The above *Journals* are deposited shortly after receipt in the University Library, Allahabad, and are available for reference by residents and visitors to Allahabad on application to the University Librarian or to the University Professor of Economics or his assistant. The University Library contains sets of the following periodicals complete (or nearly so) from the beginning in each case, except where shown:—

The Economic Journal.

Journal of the Royal Statistical Society.

Quarterly Journal of Economics—

The Economic Review (from Vol. 16).

The American Economic Review.

The Local Self-Government Gazette.

The Agricultural Journal of India.

The Economist (from Vol. 79, 1915).

PRINCIPAL CONTENTS OF FOREIGN JOURNALS

ECONOMIC JOURNAL

(Quarterly Journal of the Royal Economic Society. London:
Macmillan & Co., Ltd.)

DECEMBER, 1916.

I. THE WAR:—

- Interest after the war and the export of capital*, by
PROF. A. C. PIGOU.
Inflation of the currency and the rise in prices, by PROF.
J. S. NICHOLSON.
The commercial policy of France after the war, by PROF.
CH. GIDE.
The task of the welfare supervisor, by PROF. W. J. ASHLEY.
The spitalfields Acts, 1773—1824, by J. H. CLAPHAM.

II. Review-Articles—

- The Report on food prices*, by PROF. E. CANNAN.
German and British Agriculture, by C. R. FAY.
A British Trade Bank, SIR CHARLES ADDIS.
The Economics of the war and its sequel, by L. L.
PRICE.
The Mystery of the Medieval Draper, by PROF. W. R.
SCOTT.

THE JOURNAL OF POLITICAL ECONOMY

(Published monthly from October to July by the University
of Chicago, U. S. A.)

OCTOBER, 1916

- The Movement for Tax Reform in Virginia*, by THOMAS
WALKER PAGE.
Purveyance in England under Elizabeth, by LOUIS
MARTIN SEARS.
The Concentration of Water Powers, by HARLEY W.
NEHF.
The Elevator Movement in the Pacific Northwest, by
HOWARD T. LEWIS.
NOTES—*When a Railroad Employee is Hurt: the Legal
Tangle*, by LINDLAY D. CLARK.

NOVEMBER, 1916

Scientific Management and Labor Welfare, by ROBERT F. HOXIE.

The Development of Hoxie's Economics, by WALTON HAMILTON.

Robert F. Hoxie: Investigator and Interpreter, by JOHN P. FREY.

A Tentative Bibliography of Robert F. Hoxie's Published Works.

NOTES—*Buying South American Goods as a Factor in Selling to South America*, by WALTER S. TOWER.

DECEMBER, 1916

The Economics and Legality of Premium Giving, by C. S. DUNCAN.

The Organization of Workmen's Compensation Insurance, by E. H. DOWNEY.

The Parisian Bill Market in the Seventeenth Century, by ABBOTT PAYSON USHER.

NOTES—*The War and the International Mercantile Marine Company*, by EARL A. SALIERS.

Washington Notes: Government Ownership of Ships—The New Tariff Commission—Changes in the Federal Reserve Act.

THE AMERICAN ECONOMIC REVIEW

(Published Quarterly by the American Economic Association,
Secretary—Prof. A. A. Young, Ithaca, N. Y.)

SEPTEMBER, 1916

Factors in American Mortality, by LOUIS I. DUBLIN.

Collective Bargaining in the Glass Bottle Industry, by LEO WOLMAN.

Bases of Valuation in the Control of Return on Public Utility Investments, by JOHN BAUFER.

Marketing Farm Produce, by Parcel Post and Express, by B. H. HIBBARD AND ASHER HOBSON.

A Description of Bills of Exchange, 1559, by ALEXANDER MARX.

DECEMBER, 1916

Construction of a Business Barometer, by WARREN M. PERSONS.

The Federal Rural Credit Bill, by GEORGE E. PUTNAM.

The Exemption through Tax Capitalization: A Reply, by EDWIN R. A. SELIGMAN.

The Farmer's Labor Income by PAUL L. VOGT.

Regulation of a Government Fostered Merchant Marine by Automatic Tempering of Securities. F. K. BLAIR.

The Revenue Act, by ROY G. BLAKEY.

DECEMBER, 1916—(cont.)

State and Local Taxation of Banks, by FRED ROGERS
FAIRCHILD.

Control of Return on Public Utility Investments, by
EDMOND E. LINCOLN.

QUARTERLY JOURNAL OF ECONOMICS (Cambridge, Mass.).

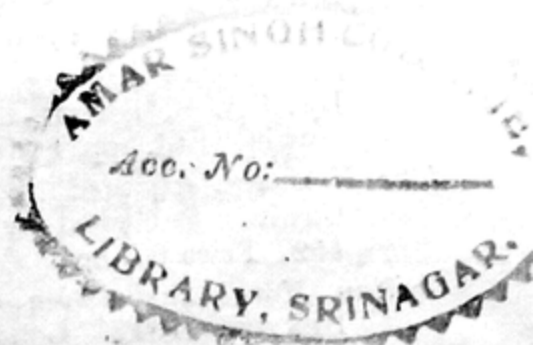
AUGUST, 1916

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